MILITARY CHAPLAINS'

REVIEW

1983

Military Chaplains' Review

"Computers,
Telecommunications,
and Ministry"

Index

Military Chaplains' Review

"Computers, Telecommunications and Ministry"

Preface

The *Military Chaplains' Review* is designed as a medium in which those interested in the military chaplaincy can share with chaplains the product of their experience and research. We welcome articles which are directly concerned with supporting and strengthening chaplains professionally. Preference will be given to those articles having lasting value as reference material.

The *Military Chaplains' Review* is published quarterly. The opinions reflected in each article are those of the author and do not necessarily reflect the view of the Chief of Chaplains or the Department of the Army. When used in this publication, the terms "he," "him," and "his" are intended to include both the masculine and feminine genders; any exceptions to this will be so noted.

Articles should be submitted in duplicate, double spaced, to the Editor, *Military Chaplains' Review,* United States Army Chaplain Board, Myer Hall, Bldg. 1207, Fort Monmouth, NJ 07703. Articles should be approximately 8 to 18 pages in length and, when appropriate, should be carefully footnoted. Detailed editorial guidelines are available from the editor on request.

Chief of Chaplains

Chaplain (MG) Patrick J. Hessian

Editor

Chaplain (LTC) Richard N. Donovan

Editorial Assistant

SFC Daniel L. Terpening

Former Editors

Chaplain (LTC) Rodger R. Venzke, October 1976—July 1981
Chaplain (LTC) Joseph E. Galle III, July 1974—September 1976
Chaplain (LTC) John J. Hoogland, May 1971—June 1974

Military Chaplains' Review

Themes being considered for future issues:

> Transitions in congregations
> Religious education
> Preaching
> Storytelling

Persons interested in contributing an article on one of the themes listed above should coordinate early with the editor to insure that their contributions fits well with other articles planned for the issue.

The *Military Chaplains' Review* also prints an occasional "non-thematic" issue. Any subject having to do with chaplain ministry is appropriate for such issues.

Introduction to Computers for Ministry

The Reverend Kenneth Bedell

In the not too distant future using a computer will be as easy as it is traveling today with an organized tour group. With a travel group someone else learns about hotels and local transportation, the most interesting sights to see and how to get there. The traveler receives all the benefits of traveling without needing to do extensive research, planning or organizing.

One way this might happen in the future is that computer equipment (called hardware) will be purchased and carried to where it will be used. There it will be plugged in to electricity and connected to a telephone jack. When the computer is turned on for the first time, it will automatically dial a telephone number and connect itself to a large computer in a distant city. The screen of the computer will display a list of possible tasks and ask the operator to define what the new system will be used for. For example, the operator might identify mailing lists as one job of the new system. The computer would then ask how large the mailing list will be and whether additional information will be kept about each person on the list.

After the use of the computer has been defined, the large computer in the distant city will organize a set of instructions (called software) for the system and send them over the telephone line to be stored in the new system. In a matter of a few minutes the new computer system will be ready to be used. The operator will need to know nothing about how a computer works, what it is capable of doing or not doing, or what the various components are.

But today those who would travel into the land of computer use will find the guided tours are very limited. Like the traveler who researches the history of an area to be visited, learns about local customs,
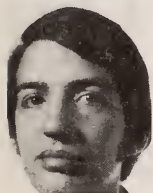
Rev. Bedell is the minister of the Preston Parish in Preston, Maryland. He serves the Bethesda and Grove United Methodist Churches. He is author of *Using Personal Computers in the Church* (Judson 1982) and several articles on church use of computers. He serves as a workshop leader and consultant to organizations investigating the use of new technology. His address is: P.O. Box 147, Preston, Maryland 21655.

and discovers accommodations, the people who pioneer the introduction of computers into the ministry must investigate what computers do, think about what they cannot do, and understand how a computer system is put together.

Just as pioneers in any area are motivated by a sense of adventure there is excitement in participating in the introduction of this technology into ministry. But pioneers are also motivated by the belief that there is great opportunity in the new land they are moving into and that others will follow. By going first they will begin to benefit immediately from the opportunities. In the case of introducing computer technology into ministry those who go first will be helping their own ministry and advancing the building of the Kingdom.

Those who decide to let others go first will probably not need to wait long until there are guided tours of the land where computers enhance ministry. They will likely spend less money on hardware and software, but their ministries will suffer from not taking full advantage of the opportunities open to them.

Luckily, computers are deceptively simple. It is not necessary to have a degree in computer science to understand the principles of a computer's function.

What can computers do?

Computers can only store, compare, change, combine, and move electronic symbols. We are familiar with the use of electricity to move symbols from one place to another and store symbols.

Figure 1 illustrates the principle of what a computer can do. Some kind of information must first be changed into electronic symbols. In this case words are typed on a keyboard where they are converted to electronic symbols that can be used by the computer.

The electronic symbols will be compared to a collection of symbols stored in the computers. At an earlier time the computer system was set up by someone who did two things. First, a set of instructions for

Software to control manipulation of data

Computer creates modified digital code

TYPES ENGLISH

KEYBOARD

(A)

Converter to electronic digital code
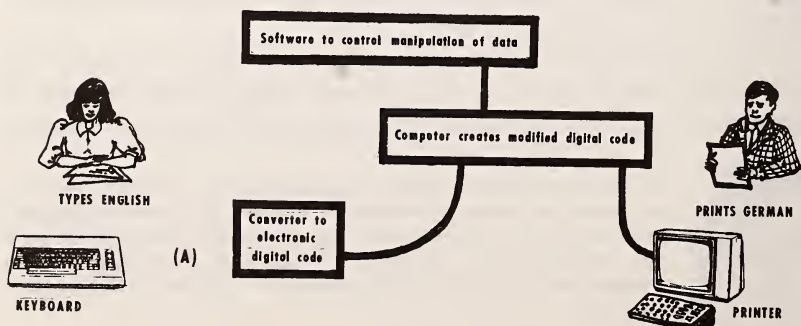
PRINTS GERMAN

PRINTER

Figure 1

the computer was prepared. These instructions are called a computer program or software. The instructions are a set of electronic symbols that cause the internal workings of the computer to respond in certain ways. In this case the instructions would tell the computer to receive an electronic symbol from the input device (A) and to compare that symbol with the symbols for all English words, when a match is found the instructions would have the computer send the necessary information to printer where a German word would be printed.

Second, the person who designed the system would also need to put certain data into the computer memory before the system could be used. In this case the data would be a pair of electronic symbols for all English words with German equivalents. The user simply needs to turn the system on. When an English word is typed into the printer, a German word appears on the printer. The system could be improved with more sophisticated software. For example, the computer could wait until a whole sentence has been received and then organize the German translation according to the rules of German grammar rather than English word order. Or each time the computer encountered a word that it did not recognize, it could signal the English speaker who would have the option of adding a new word to the computer data.

The system could also be modified by changing the way that information is received by or sent out from the computer. Rather than using a keyboard the English speaker could speak English words into a microphone. Each word would be converted into an electronic symbol by a special electronic device for use by the computer. Or the output could be replaced by a television-like screen so that the German speaker would read a German translation. The message in either English or German code could be stored as electronic symbols for later printing on a typewriter-like machine or the German translation could be transferred long distances over telephone lines or by radio transmission where it would be received by another computer system.

Bits and Bytes

We are all familiar with the use of electronics to move and store symbols. A telephone electronically moves symbols in the form of spoken words and a tape recorder will store the symbols of spoken words. Computers also use electronic symbols. The only difference is that with computers the symbols must be changed into a digital form. Digital symbols are made up of discrete units.

With computers these discrete units are called bits. They are an electric charge that is either present or absent. With one bit it is possible to represent two unique messages. Either the electronic symbol is present or it is not. One bit might be used to symbolize the answer to a question which can be answered either yes or no. With two bits it is possible to create four unique symbols. (The first bit can be present with the second bit either present or absent, this makes two possible symbols, and

then the first bit can be absent with the second bit either present or absent, making two more symbols. This makes a total of four unique symbols.) Each time an additional bit is used the number of unique symbols that can be created is doubled. With eight bits it is possible to create 256 unique symbols. Eight bits are so commonly used by computer systems that they are given a special word. Eight bits make up a byte.

Most computers that will be considered to help with ministry use eight bits of information at a time. These are called eight-bit computers. There are also 16-bit computers which use 16 bits of information at one time. This means that the computer can process twice as much data as an eight-bit computer. As technology advances we can expect more sophisticated computers that operate much more rapidly. While these new computers promise that they will be more efficient, they will not do anything different than the eight-bit machines.

In most cases the computer moves information from one place to another with eight wires so that each wire carries one bit. If there is a charge on the wire, it indicates the presence of information. If there is no charge then information is absent. This is called *parallel* transfer of information. It is also possible for information to be moved *serially*. In this case one wire is used and bits are sent one after another with a specific time between the transmission of each bit.

Within a computer system bits can be stored (remembered) using an electronic switch. The switches are turned on if it is to signal that the bit is present and the switch is turned off if the bit is absent. Eight electronic switches could be used to store new information. The switches can be cleared and used to store new information.

Using the first seven bits of a byte, 128 unique electronic symbols represent the 26 letters of the alphabet, plus 26 letters in lower case, plus 10 numbers, plus several special symbols such as a symbol for the end of a message, punctuation symbols, and a symbol to indicate a carriage return. The most common symbol system used with computers is ASCII codes. In this case each letter or number is given a specific pattern of bits. Examples of ASCII codes are given in figure 2.

A computer system

A computer system is made up of *five components:*
1. Central Processing Unit (CPU)
2. Storage devices
3. Input devices
4. Output devices
5. Software

The *software* usually consists of three parts:
1. The operating system that controls the operation of the various parts of the system and their interaction.
2. A Language interpreter or compiler which changes instruc-

The ASCII Code

b7	b6	b5	b4	b3	b2	b1	ROW \ COLUMN →	0 (000)	1 (001)	2 (010)	3 (011)	4 (100)	5 (101)	6 (110)	7 (111)
			0	0	0	0	0	NUL	DLE	SP	0	@	P	`	p
			0	0	0	1	1	SOH	DC1	!	1	A	Q	a	q
			0	0	1	0	2	STX	DC2	"	2	B	R	b	r
			0	0	1	1	3	ETX	DC3	#	3	C	S	c	s
			0	1	0	0	4	EOT	DC4	$	4	D	T	d	t
			0	1	0	1	5	ENQ	NAK	%	5	E	U	•	u
			0	1	1	0	6	ACK	SYN	&	6	F	V	f	v
			0	1	1	1	7	BEL	ETB	'	7	G	W	g	w
			1	0	0	0	8	BS	CAN	(	8	H	X	h	x
			1	0	0	1	9	HT	EM	)	9	I	Y	i	y
			1	0	1	0	10	LF	SUB	*	:	J	Z	j	z
			1	0	1	1	11	VT	ESC	+	;	K	[	k	{
			1	1	0	0	12	FF	FS	,	<	L	\	l	¦
			1	1	0	1	13	CR	GS	−	=	M	]	m	}
			1	1	1	0	14	SO	RS	.	>	N	^	n	~
			1	1	1	1	15	SI	US	/	?	O	_	o	DEL

Figure 2

tions into a code which can be directly executed by the CPU.

3. Specific applications programs.

Although the various parts of a computer system are often purchased together, they can be thought of as distinct parts of a system.

Central processing unit (CPU)

The CPU is the brain of the computer system. Usually the CPU, which is manufactured by printing microscopic electronic circuits on a thin slice of silicon, is packaged in a plastic container with wires coming from it. CPUs packaged in this way are called chips. (Chips are also used to package other electronic circuits used in computers.)

Figure 3 represents the organization of a typical eight-bit CPU. Eight-bit CPUs use eight wires to transfer information to and from the CPU, eight wires to transfer instruction codes to the CPU, and 16 wires to carry codes to indicate which place in memory instructions or data are stored. Instructions enter at point *a*.
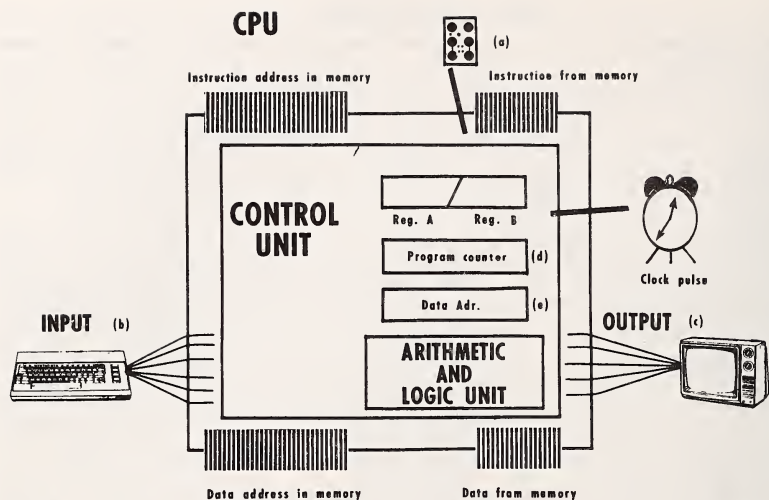
Figure 3

Let us say that the first code signals that the CPU is to receive an input code from the input device and store it in *register A*. Once the electronic symbol is stored in *register A,* another instruction code might enter through the wires at *a* indicating that a second code is to be received from the input device and placed in *register B*. After this has been accomplished, the computer could receive a third instruction through the wires at *a* which would signal that the contents of *register A* and *register B* are to be added and the result placed in *register A*. When this is completed, a final instruction would come to the control unit which would signal that the resulting answer should be sent out through the wires at *c* to be printed on a television-like screen.

The CPU needs to receive the instructions, usually stored in memory, in sequence. Each particular place in memory is identified by a unique electronic code represented by a symbol made of 16 bits. This is called the memory address. The program counter (*d*) stores the symbol for the address of the next instruction. Sometimes the information which the computer uses comes from memory rather than an input device. The data pointer (*e*) stores the address of the next data that will be used.

In real CPUs separate wires are not used to bring input and output data from memory or to send data to memory. Rather the CPU uses a set of wires to signal to the outside world what the input and output wires are being used for.

All of these functions must be accomplished in an orderly fashion. The order is maintained with a regular pulse of electrical current coming from a source called a clock. Each time the CPU receives a pulse from the clock, the control unit is signaled to move on to the next step. CPUs commonly use clock pulses from 1 to 10 Mhz. One Mhz is a

million cycles per second. A CPU is designed so that several clock cycles will be used for each step. This is called a machine cycle. The clock speed is an indication of how rapidly the CPU will perform a step, but in most situations the speed of the clock will play only a minor role in finally determining how quickly a computer system will accomplish a complicated task.

Internal storage devices

Every computer system must have some internal storage devices (sometimes called Direct Access Memory). This will be a set of electric switches which are used to store data and instructions for the CPU. With an eight-bit computer system eight switches are grouped together to store data or instructions and 16 bits (transferred on 16 wires from the CPU to the memory chip) are used to identify which location in memory the CPU is interested in. Using 16 bits it is possible to identify 65,536 unique sets of switches. Each 1024 bytes of memory is called 1K of memory. This means that 64K is the maximum amount of memory that can be directly accessed by the computer system (64 × 1024 = 65,536). Although only 64K of memory can be directly connected to a CPU at one time, it is possible to have more internal memory in a system by using banks of memory. For example, if there are four banks of memory with 64K in each bank the computer can address one bank then another so that all 256K is used by the system.

There are several types of direct access memory chips. The two most commonly used in computer systems are ROMs and RAMs. ROM stands for *Read Only Memory*. These chips have sets of switches that have been set either open or closed when the chip was manufactured. In a system, ROM chips contain programs which are not changed. By sending out the proper address code the CPU can discover what information is contained any place in the ROM chip. This information can be obtained in any order, so a ROM chip has random access to the information stored in the switches which have been permanently set.

The second common memory chip used in computer systems is RAM which stands for *Random Access Memory*. Both ROMs and RAMs have random access to the information they store. They differ in that with RAM the switches can be changed so the information they contain will depend on the information that was placed there by the CPU. ROMs continue to store the same information whether the computer system is turned on or off. With most RAMs when the supply of electricity is turned off their content is lost.

A computer system will usually have ROM memory for a progam called *the bootstrap program* and some or all of the programs that control the internal functioning of the system called *the operating system*. Many computer systems have a program which allows the user to write programs in the BASIC language stored in ROM. Computer systems also need some RAM to function properly. ROM and RAM are addressed in

the same way so the maximum amount of RAM and ROM together that can be directly accessed at any one time with an eight-bit CPU is 64K.

External memory

Internal memory is expensive and limited in capacity, therefore, a computer system needs a way to store information and program externally. Also internal memory often depends on a source of electricity. It is important to have a way to store information when the computer is turned off.

One of the most popular external memories is *floppy disks*. These are thin plastic disks, either 5¼" or 8" in diameter, which are coated with a material that can store information just as music is stored on magnetic tape. A disk drive is the equipment which is used to place information on these disks and to retrieve it. The disk drive is connected to the computer system so that electronic symbols can be moved from internal memory to the surface of the disk or from the disk into internal memory. Usually whole blocks of information are moved at one time. The surface of the disk is divided into clearly-defined areas. This means that information can be moved to and from the disk with random access.

There are also *hard disks*. As the name implies, hard disks are rigid metal disks with a coating that makes it possible for them to store electronic symbols. Hard-disk-drive systems are more expensive than floppy-disk drives, but the hard disk will store much more information and can send information back and forth much faster.

Some computer systems are designed to use *cassette tapes* for storage of electronic symbols. The advantage of this method is that it is very inexpensive. There are, however, several disadvantages. The first is that of all the methods discussed so far cassette tapes are the least reliable. Secondly, with cassette tapes the information is not available randomly. To find specific information it is necessary to start at the beginning of the tape and play it until the tape comes to the necessary information. Cassette tapes are also much slower in transferring information to and from the tape.

Whatever external memory system is used, it is extremely important to make several copies of all data and software. With a hard disk system copies of all data should be stored on floppy disks. When a cassette tape system is used, several copies should be made to protect against loss.

Input devices

The most common input device for a computer system is a *keyboard*. Usually the keyboard is like an electric typewriter keyboard. Keyboards are available with calculator-like keys or pressure-sensitive keys. Since most information used by the computer will be entered through the keyboard, it is important to have a keyboard that is comfortable and easy to use. Sometimes the keyboard will have a numeric pad (like the

keyboard of a calculator) which makes it easier to enter numbers and special keys which are used to control the operation of the computer.

Another popular input device is a *light pen*. The light pen produces a small beam of light which when pointed to the screen will signal the exact place where the light appears. It can be used to draw on the screen. *Joysticks* are used with games and in other applications to move a mark from one place to another on the screen.

Card readers are available which will "read" marks placed in specific spots on a piece of paper. Many supermarkets use computer input device to read price tags. There are also devices that will read the content of microfilm.

Output devices

In some cases a television set can be used for the screen. But many applications such as word processing demand the better resolution of a computer *monitor*.

Often the keyboard for input and a screen for output are combined into a computer terminal unit. Several terminals can be connected to the same computer system where they share software and data.

One of the most difficult decisions to make in setting up a computer system is which *printer* to purchase. Printers vary in price from less than $400 to over $5,000. They vary in quality of print and in print speed. The least expensive printers produce dot matrix letters commonly associated with computer print-outs. There are also printers which produce print similar to that produced on a typewriter which can be purchased for less than $1,000. Sometimes one of the newer electronic typewriters can be converted for use with a computer system.

Generally printers will increase in cost as they increase in the speed they produce copy and as they increase in the quality of the printing.

Software

Operating system

The *operating system* is designed specifically for a computer system. It controls the input and output functions which can be used to define the way information is sent to and from a computer system. When programs are written with a particular operating system, the programs can be used on many different hardware configurations. CP/M is a popular operating system convention and many programs are available for use on computer systems with CP/M.

Language

An important part of a computer system is the language. Most personal computers come with a BASIC language system permanently stored in

ROM (Read Only Memory). Programs are then written in the BASIC language. However, BASIC is not standardized. Therefore, programs written for use on one computer with BASIC will not necessarily work on another computer even if it has BASIC language in ROM. A language can be stored in RAM as well as ROM. Computer systems can be set up so that some programs are written in BASIC and other programs in another language.

Glossary of Computer Terms

ASCII: A code used by computers to produce letters, numbers and symbols. Stands for American Standard Code for Information Interchange.

Bit: The smallest piece of information used by a computer. It is the basic building block which a computer uses to produce symbols and communications.

Byte: Eight bits grouped together to form a letter, number or symbol.

Chip: A small silicon wafer, usually composed of several layers. Each layer has complex circuitry etched on it. The CPU is a chip, and chips are also used for other specialized tasks.

CPS: Characters Per Second.

CPU: Central Processing Unit. The "brain" of the computer.

CRT: Cathode Ray Tube. The TV-like monitor used to review computer data.

Daisy Wheel Printer: A "letter quality" printer for which the typeface is on a small wheel with spokes that resembles the petals of a daisy.

Disk Drive: A device for the storage of data. May be either "floppy" disk or "hard" disk.

Dot Matrix Printer: A relatively low-cost, high-speed printer which produces characters with combinations of tiny dots. Print quality is lower than that produced by letter-quality printers, although the gap in quality is closing rapidly.

Hardware: Physical equipment, such as the computer and printer.

Hard Disk: A device for the storage of large quantities of data. A hard disk provides access to much more data than does a "floppy"

Application programs

Application programs are written in a specific computer language to make the computer accomplish a useful task. *It is the quality of these programs which determine the usefulness of a computer system.* Using the BASIC language application, programs can be written by any computer user who spends sufficient time learning the language. However, such an approach can consume a great deal of time and the final result may not

---

disk. It works much more quickly. It also costs more than a floppy disk drive, but can be more cost effective if its full capacity is required.

K: 1024 units. Usually used to measure *bytes*. 64K of memory is $64 \times 1024 = 65,536$ bytes of memory. One byte is equal to 2 to the 10th power.

Megabyte: Approximately one million bytes. To be exact, it is 1024K.

Modem: A device to allow the transmission of computer data over telephone lines.

Monitor: The TV-like device used to view data on a computer.

Peripherals: Hardware attached to a computer, including disk drives, printers and monitors.

Operating System: The software used by the computer to control other programs.

Program: Instructions to make the computer perform appropriate tasks. Software.

RAM (Random Access Memory): The computer's primary memory. Information from disks or other storage devices must be loaded into the RAM before it can be processed by the computer.

ROM (Read Only Memory): Software instructions that are built into the computer by the manufacturer. Permanently stored. The ROM gives certain instructions to the CPU, and can store a computer language or basic routines.

Software: Instructions that tell the computer what to do. Software includes the computer's operating system, as well as programs that are loaded into the computer by the user.

Word Processor: A computer system (including printer) loaded with a word processing program.

be of high enough quality to make the computer system useful for ministry. Writing simple programs is a challenging and rewarding pastime, but for the more sophisticated uses of a computer in ministry, programs will not be written by the person who uses them.

Another alternative is to hire someone who is a professional computer programmer to prepare applications software. The advantage of this approach is that the characteristics of the software can be clearly defined and the total system designed for the specific setting. The problem with this approach is that it is often very expensive. Custom software may cost several times as much as the cost of the equipment it is used on.

A third alternative is to purchase "off the shelf" software which is marketed for general applications. The problem with this approach is that the software may not be designed specifically for your application, but it is much less expensive than custom software and it takes less time than writing your own. Sometimes, "off the shelf" software can be modified to more closely approximate your needs.

How to get started

The place to start is by carefully defining the tasks for which a computer will be used. It may be helpful to look at ways other people are using computers as well as packages of software and hardware which are available. But in purchasing a system you will want to be sensitive both to present and future needs. It is best to begin with an analysis of what a computer can do for your organization.

The second step is to develop a software plan. Decide whether there are software packages which will meet your need. If you will be developing your own software determine what language and operating system will best meet your needs.

Only after you have decided on the software needs should you begin to consider specific hardware. In most cases the software consideration will have placed limits on hardware which will meet your needs.

Before making a final decision there are several other factors to consider. Can you rely on service support for both the hardware and software you have settled on? Is the system you are considering compatible with other computer systems with which it may need to communicate? Will you be able to access other machine readable information to assist with your work?

Probably the greatest changes in the future will be in the area of software. Software which is much more sophisticated will be increasingly available. We can also expect computers which are faster, able to process more information, and cost much less. However, this does not mean that the work of ministry can wait for these better machines. Today's computers are cost effective. Their potential contribution to ministry should not be postponed until the future.

The Electronic Office:
How It Will Change the Way You Work

Marvin Kornbluh

Readers are encouraged to read this article and the following article (by Parker Rossman) together. Mr. Kornbluh describes new office technology, and Mr. Rossman ties that directly to the church office.

Most businesses are finding it increasingly difficult to afford the traditional approach to office work, with its private secretaries, paper-clogged "in" and "out" boxes, cumbersome office mail, searching for files, and editing, correcting, and copying of documents. Consequently, a growing number of managers are considering major capital investments for their office with an eye toward big savings in time and money.

Office productivity increased by only about 4% during the 1970s, while factory productivity, spurred by automation, rose 85% over the same decade, according to the best estimates of some experts. The investment in capital equipment per office worker has been far less than that for each manufacturing employee, with some specialists estimating only $5 to $10 spent per "white collar" worker for every $100 for a "blue collar" worker.

Offices are still largely labor-intensive, employing a large number of "knowledge" workers such as managers, administrators, accountants, programmers, personnel workers, attorneys, researchers, and engineers

along with their clerical support staffs. These "office workers" spend most of their time absorbing or giving information—among themselves as well as with customers, clients, and vendors. More and more, they are being forced to cope with "information overload" in an increasingly complex world.

The "office of the future" will inevitably respond to these problems with technology that augments human potential by eliminating drudgery and monotonous routine and reducing the time dedicated to intraorganizational, overhead activities. Most communication will be carried out electronically, with significant reductions in the amount of labor expended.

The trend toward electronic storage and transmission of information is leading to what is variously known as the "paperless office," the "automated office," and the "office of the future." The expectation is large productivity gains in such office functions as:

- Typing written material.
- Proofing and editing typed material.
- Handling internal correspondence.
- Filing and retrieving reports.
- Doing research.
- Drafting original material.
- Scheduling meetings.
- Billing and accounting.
- Handling telephone calls.
- Copying material.
- Mailing material.

Over the next two decades, we can expect a wider range of sophisticated time- and labor-saving marvels to come on the office equipment market. Here's a look at tomorrow's office world. The components are reviewed here as separate entities, but there is considerable overlap among them in that one device may possess some of the capabilities of other systems.

Personal desktop terminals and work stations

In the next decade, most managers and other professionals will work with personal desktop computer terminals and well-designed, flexible work stations that make computer-processing and data-storage resources instantly and interactively available for compiling, interpreting, and analyzing information. They will come in many styles with all types of keyboards, video displays, and input-output media. All will be electronically comparable to the conventional four-drawer file.

Work stations will include software and memory facilities for the storage of both incoming and outgoing documents and correspondence, together with powerful automatic indexing and data management capabilities. Specific documents such as contracts, office reports, and purchase orders will be retrievable within a minute or so.

The equipment will be capable of "information tracking." This tracking entails quick checks into the status of requests for information and, when necessary, automatic reminders to those whose answers are tardy. Similarly, with proper programs, the systems will be able to check the spelling of words, keep a personal telephone directory, and maintain master and individual "calendars" of meetings, appointments, deadlines, and other time-sensitive events.

Intelligent word processors

Intelligent word processors manipulate, edit, and format text to facilitate the production of typed correspondence and reports. The editing and formatting will be performed via a display screen. Rough drafts and finished texts will be printed immediately at high speeds and locally or centrally stored. The word processor will also print documents that are prepared at a remote location and transmitted electronically.

The basic word processor will still contain a microprocessor "memory" and/or optical character recognition equipment, a keyboard, a printer, and a graphic display. Most will also have an interface to a data (computer-communications) network. All will have addresses for sending and receiving material.

Three categories of word processing will still exist:

1. Stand-alone units with display screens utilize microcomputers that can store items such as full-hyphenation dictionary, proportionally space and justify typed or printed material, prepare dunning letters for overdue accounts carrying an itemized list of unpaid items, and automatically prepare and personalize other kinds of letters.

2. Cluster systems operate on either a "shared logic" or a "distributed logic" basis. In a "shared logic" system, a central processor or logic unit supports a number of remote input units and output terminals. With "distributed logic" systems, each component is endowed with its own intelligence and can operate semi-independently. Several employees will work simultaneously on a document, using a rich set of text editing and formatting capabilities. Operators will manipulate the files in the data base independently of one another but with a great deal of cross-referencing, if necessary.

3. Time-shared systems have remote terminals connected to a service bureau's computer and offer large amounts of storage. The only required investment is the purchase or rental of an appropriate terminal.

Electronic mail

An electronic mail system is an alternative to postal service, private carriers, and intercompany mail delivery networks that carry mail physically. It transmits messages (letters, memos, contract, voicegrams, mailgrams, telegrams) via an electronic communications network (telephone, wire, radio, cable TV, satellite). The system may incorporate various kinds of equipment, including message terminals, small com-

puter, intelligent copiers, and word processors. There are essentially four variations of electronic mail.

1. Common carrier-based systems and public postal services are likely to provide document distribution. The U.S. Postal Service and private common carriers will probably offer next-day delivery through a domestic electronic message service.

2. Facsimile systems involve scanning a document in one location, converting that information into electronic pulses, and transmitting the pulses over a telephone line to facsimile receiver at another location—at fast speeds—to reproduce the document.

3. Personalized computer-based message systems permit the user to access his incoming messages at his convenience, to dispose of them electronically, and to file, display, or pass them along as he sees fit.

4. Communicating word processing systems are word processors whose output, quality, and speed will be high and will eliminate the need to create hard copy; text will be transmitted just as it appears on a screen, and the systems will communicate with other computers, terminals, and word processors.

All of these variations will offer some, if not most, of the following services:

- Built-in levels of priority and confidentiality.
- Filing messages for later retrieval.
- Chaining messages together.
- Option of hard copy and messages displayed on a screen (soft copy).
- Multiple copies.
- Different type styles.
- Automatically addressing acknowledgements of messages back to original senders.
- Specification of multiple addresses.
- Sealing envelopes.

Teleconferencing

Managers and executives spend much of their time in meetings. While the telephone has traditionally been used for two-party conversations, many business meetings involve several people who may be at different locations. Teleconferencing means holding multiparty meetings over communications links connecting two or more sites. The use of the three major forms, including hybrid versions, will increase:

1. Audio teleconferencing: The participants communicate by telephone (voice) and sometimes transmit graphic material using special equipment. Individual employees will set up conferences from their own desks without going through an operator, and conferees will talk in normal tones with their hands free, using high-quality "speaker phones."

2. Computer teleconferencing: The meeting participants communicate through computer terminals, and their statements and ques-

20

tions are stored in computer memory as a "continuing dialogue." Several individuals can speak (type) simultaneously and they can remain anonymous if desired. Participants in a computer teleconference will not need to be physically available at the same time; instead, they can enter messages on their terminals and read those of other participants at their convenience.

3. **Video teleconferencing:** A large number of remote groups directly communicate with one another through television images with sound. Individuals and groups will see each other on television monitors either in full motion with "zooming capability" or via the "freeze" or "still frame" technique. The moving pictures can be retained on videotapes or videodiscs for later reference and "hard copies" of still frames can be prepared.

Intelligent telephones

The 12-key pushbutton telephone will serve as a low-cost intelligent terminal with the addition of a "built-in" microprocessor. It may also have a slot for inserting a magnetic card, a simple device for receiving and storing data, a small display attachment that retrieves telephone numbers from memory and displays desired ones, and a timer that monitors and records call lengths.

A computer-based switchboard will automatically link office personnel performing various office functions and will be able to monitor and control security alarms, light, heat, air flow, and the flow of data, text, and messages. It will also have the capability to "look ahead" for busy phones; make collect, third-party, and credit-card calls without operator assistance; and screen calls so that only those from specified numbers can come through.

The use of the picture phone (which allows participants to see each other as they talk over the telephone) will increase substantially. Transmission costs will be greatly reduced while the picture speed and quality will be greatly improved.

Intelligent communicating copiers

Intelligent communicating copiers will be available to accept a wide variety of paper stock and perform good quality, rapid-printing chores at moderate prices. They will be able to produce color, and enlarge and shrink copies. They will also have the capability to prepare original drafts from data sent by computers and word processors.

Word processors and computers will be connected to photocomposition equipment to eliminate any rekeying of data for volume printing. Inkjet printers will also interface with the word processors and computers. These are non-impact forms of printing where a jet of ink is shaped "electrostatically" to form text. A minimum of operator attention will be required to copy or print attractive brochures, reports, half-tone photographs, pamphlets, booklets, and other message forms.

Optical character readers

Optical character readers (OCRs) will be able to scan a piece of paper, convert the information to digital form, then transfer it to the memory of a computer. Scanning evades keystroking of information and can include supplemental pictorial material. Text editing, facsimile reproduction, storage and retrieval, and printing can then be carried out on the stored information. One application of OCRs will be to scan and route mail and file material by converting paper messages to electronic media.

Micrographics

Micrographics involves the substitution of microforms (microfiche, microfilm) for paper in records storage. Its equipment includes a camera and may include a printer, a developer, and a duplicator. Microforms in such storage produce extraordinary space savings, permit rapid access to archived records, and last a long time.

Microforms can be produced directly as output from computers. They can be reformatted, updated, and converted into other media—including packaged in cartridges and cassettes, film jackets, operator cards, and microfiche. Microfiche is a 4″ × 6″ card-like piece of film containing 270 or more standard-size computer pages of information.

Managers will be able to carry microfiche home in an attache case outfit with a viewer and project information onto a curved screen built into its cover.

Electronic blackboards

Messages written on electronic blackboards generate digital signals that are clearly, reliably, and quickly transmitted over telephone or other communications lines. An instructor or manager can write on the "pressure-sensitive" surface and thousands of miles away employees will not only be able to hear the lecture but also see what is written on the blackboard via a video screen.

A recorder of some sort can be connected at either end to capture and store the voice. Both voice and associated graphics can be replayed later at times convenient to both the sender and the receiver. Mistakes in writing can be corrected by a special blackboard eraser attached to the blackboard.

Computerized training devices

Small electronic units will be plugged into the antenna leads of conventional television sets. These units will contain interchangeable data storage devices along with a microcomputer and will connect with telecommunication links used by the organization. The television set will thus have access to libraries of computer-assisted instruction programs and data banks containing organized knowledge on thousands of topics. Specific programs and data can be selected and displayed on the television screen, including text, graphics, and still and moving pictures.

Voice communications

The use of voice communications for data input to and data output from computer equipment will grow substantially, but it is likely to be expensive, require high maintenance, and be of only fair quality.

Voice communications input involves "speech recognition"—a capability for translating human speech into a form that computers can recognize. Microprocessors will tune the system to the accent, dialect, and regional word patterns of one specific individual. It will be possible to dictate inter-office memos into voice recognition units that will display the spoken words on a sceen for immediate editing.

Voice output devices concern "speech synthesis" that takes data within the machine and converts them into intelligible synthetic speech. Such devices are convenient when an individual's hands and eyes are otherwise occupied—and, of course, would be of utmost utility to blind employees.

Speaker verification systems will formulate individual "speech prints"—much like fingerprints—to identify a speaker. These systems will be very useful in requesting confidential information over the telephone or from a computer.

Electronic speech compressors

An electronic speech compressor will be available to speed up rates of recorded speech without increasing the pitch. This avoids the "Donald Duck" sounds one commonly hears when an ordinary tape recording is run fast. The listener hears the person on reusable and inexpensive tape, talking faster but sounding much the same otherwise.

The device will produce speech rates of up to 500 words per minute, which is as fast as many people read. An executive can listen to a recording of a conference in less than half the time it would have taken to attend in person. An individual can play the device while traveling or at other times and places where reading might be inconvenient or impossible.

Integrating the time and labor savers

While most office devices, equipment, and systems are originally conceived of as discrete and relatively independent developments, the office of the future will have numerous options for integrating them. Word processors will be linked to computers; computers will become enmeshed in telephones; optical character readers will be linked to facsimile equipment; personal desktop terminals will tie into electronic mail systems and micrographics capability.

The boundaries among the office technologies will become more and more blurred as the various components of the office become interconnected. Moreover, integration means more than placing machines side by side in a room. It means taking a management approach whereby the configuration, placement, and application of the office technology

are dynamically controlled to meet the changing needs of the organization.

Numerous labor-saving benefits could stem from integrated office technology, such as:

1. Reduced "shadow functions": Shadow functions are the unforeseen, unpredictable, time-consuming activities associated with accomplishing tasks, such as misdialed numbers, busy signals, and the person to be contacted not being available.

2. Reduced number of interruptions: Meetings, conversations, and ongoing work need not be interrupted. Not only can "waiting times" be saved but also the time needed for individuals to return to their original activities.

3. Reduction of several steps in the communication process: Steps such as addressing, batching, dating, formatting, distributing, storing, and signing of documents can be performed automatically.

THE PORTABLE OFFICE

For many employees, there will be no real reason to be physically present at a central location as long as they have ready access to data banks and communications systems. Electronic networks will enable workers to stay "plugged in" to the main office while they're at home, at remote branches, or on the road.

Telecommuting

With computer terminals available in the home or at dispersed suburban locations, some employees will not need to come into the main office on a daily basis; some may not need to come in for weeks at a time. This substitution of communications for travel is known as telecommuting.

High-level executives will head for a local branch office once or twice a week instead of making long commuting trips. Some typists will be able to work at home, receiving dictation by telephone or hand-written drafts by facsimile, then returning typed copy via communicating word processors. Handicapped persons who find it difficult to travel will benefit considerably.

Mobile communications links

Two-way radio facilities will be widely available in trains, cars, trucks, taxicabs, buses, and airplanes for individual uses. Portable hand-held units will permit subscribers to communicate with other subscribers anywhere in the world—even while traveling. The links will operate via satellite and terrestrial-based networks. Executives will keep in touch with their offices continuously, despite being "on the move." These mobile communica-

4. Reduction in the number of media transformations: Notes from meetings and phone calls may no longer need transformation from oral to written form. Changing the medium of the message may no longer be necessary, such as between handwriting and typewriting, computer storage and hard copy, and local copy and mailed copy.

The office of the future should not be viewed strictly as a means of overcoming existing technological limitations in the office. It should also be regarded as a restructuring of the thought processes and working methods of professional, managerial, and administrative persons as they perform their daily work in offices.

No pat formula exists for assisting organizations as they move toward the office of the future. Each firm must find its own way consistent with its markets, services, management, activities and styles, size, mores, and past experiences with computers and telecommunications technology.

---

tions links will have long-distance ranges and combine some of the advantages of the citizen's band radio and the telephone.

Radio paging

A radio-paging system makes it possible to contact individuals who are not sitting near a telephone. The individual hears a small, inconspicuous radio receiver or "beeper" that can signal with either an alarm tone or a spoken message. The new beepers will be smaller and less expensive and will supply different tone signals so that the subscribers can distinguish between various messages. The caller will be instructed to dial the subscriber's number and then add an extra digit to tell the subscriber whether to call the office, home, or car phone—or proceed directly to the office or some other place.

Electronic briefcase

When this portable briefcase—about the size of one today—is open, one side will have a letter-sized screen of plastic across the bottom, equipped with the "touch sensitive" keys and controls of an electronic keyboard. The top two-thirds of the screen will display text, graphics, and video images. All of this will fit in a thin, removable cover. The other side of the case will contain the electronics, the memory slot of pre-programmed chips, and super-batteries to power the unit.

A small phone unit will also be available to communicate with a data network or to dictate material into storage. The rest of the lower part of the case will be empty—providing space for business cards, a sandwich, and extra video, text, or audio memory chips. There will also be a place for sensitized paper for making the permanent copies from the screen.

The Electronic Church Office of the 1990's

Dr. Parker Rossman

How will your work be changed when you have the electronic office described in Marvin Kornbluh's article? To be helpful, the answer to that question should play by the rules used at recent conferences of the World Future Society: To discuss nothing that is not now available or in the works for the next ten years as one describes future office technology and its impact. How will new opportunities and problems in the work of church and pastor be brought about by the use of computers and related electronic technology?

Imagine your office of 1993. Do you now begin your day by reviewing the tasks to be done and listing them in order of priority? Then, your personal computer, one as small as a brief case which you can carry everywhere with you, will have that all done for you at the beginning of the day. At a recent conference, I saw such a computer, one of the first imported from Taiwan, costing $60. It can be used for communicating, can be connected to data banks, and can be used for an astonishing variety of functions—using an audio-tape recorder for programs. In your 1993 church office, you may connect such a portable instrument with very powerful computers at your denominational office or church office.

This computer will keep track of all your appointments and responsibilities, calling up for you any relevant information or documentation for a meeting or interview. It can also keep for you a computer profile of every person for whom you are responsible in ministry. Such a profile can refresh your memory in advance of a counseling or teaching session. Ten years from now, we may look back at today with astonishment, remembering how inadequately we dealt with people and their

Parker Rossman is the former Dean of the Ecumenical Continuing Education Center at Yale, and is the 1982-83 writer-in-residence at Central Philippines University, Iloilo. Dr. Rossman has been writing and lecturing on the church use of computers and related electronic technology since the 1960's.

problems because we so often had to improvise—seldom having at our fingertips the information we needed about each person's past experience, problems, and progress in spiritual journey.

When a counselee comes into your office seeking specific information or help in 1993, you will have help instantly available. No longer will you have to hunt through files for a directory of social services or for that pamphlet that came from denominational headquarters some months earlier. Using your computer terminal you can immediately have the correct address and telephone number of any physician or social service agency. You can ask a data bank such as *The Source* for a wide range of information, consulting encyclopedias, directories, concordances or other references. You will be able to order a booklet or, in an emergency, have copies on your printer—of course, at greater cost.

While you are counseling, you can consult with experts via your computer network. You can do that now by telephone, but more comprehensive resources will be available through combination of telephone and computer network.

Replacing file folders

Now that your day is organized and you have seen your first two visitors, what is your next task on this day in 1993? Your intelligent word processor with its electronic files will have already done much of your work for you. Let's assume you now keep folders on all possible sermon topics, making notes and filing them whenever a book, newspaper, magazine, or conversation suggests an idea for a sermon. Your intent is to develop a treasure trove of ideas for sermons within each folder. However, files get too complex and voluminous, even if you have only 52 folders for the next year's sermons. Christmas and Easter are easy, but many other ideas for illustrations might fit any of several different sermon folders. The system becomes unwieldy. I am reminded of the story of the business firm that invented the perfect filing system. It had cross-references and indexes so comprehensive that even a child could immediately find any document. People came from all over the world to see it. One visitor observed: "This is a magnificent filing system; must help you tremendously in your business." The tour conductor said: "Oh, my, no! We had to give up the business to keep the file."

However, with existing word processor systems, it is possible to file every idea, story or reference in an electronic file, coding each item for recall at the appropriate point.

The *intelligent* word processor can edit, store and rearrange material, correct spelling and punctuation, and automatically type a complete, perfect draft at a very high speed. It can send copies automatically to colleagues for criticism or suggestions, allowing pastors to establish networks for the exchange of sermon ideas on various texts or topics. Lectionary texts can be recalled, accompanied by appropriate passages from biblical commentaries.

27

Do you make a pencil index in the back of books that you keep for repeated use? Those references can also be entered into your computer file and cross-indexed for immediate recall.

Perhaps after finishing your sermon—although with a computer file and word processor you can keep it alive and changing all week—your next task on this day in 1993 will be to draw up a financial report. Your church office computer, keeping records of every financial transaction and budget item, can report exactly where you stand on each budget item, preparing statements for any member, committee, or officer. Any member of the church can know immediately where he or she stands on church pledge payments; indeed, such payments can be automatically transferred from the member's bank account to the church's account.

Volunteers from the talent bank

You may also want to check your computer talent bank, a record of each member's volunteer efforts and interests. This would eliminate the requirement to make interminable phone calls to secure volunteers for specific tasks. For instance, if a volunteer were needed to drive someone to the hospital to visit a spouse, the church talent file would quickly identify persons who were willing to assist in such emergencies, including information on the days or nights that they are generally available and at what telephone number.

Of course, the electronic church office of 1993 will make extensive use of "electronic mail"—an alternative to the U.S. Postal Service which transmits messages from computer to computer (by satellite or phone line). For example, on the day the church council meets, each member can check his computer terminal for copies of the agenda and all the reports. Much time can be saved at the meeting, since each member can come with questions and suggestions based on advance reading of reports and proposals. Familiarization can thus be done quickly so the meeting can give priority to really important matters. Much of the preparatory work for the meeting (such as sub-committees developing proposals) can be done via computer teleconferencing. A member of the subcommittee can type proposals for other members to read on their home terminal at their convenience, allowing them to raise questions, make suggestions or propose revisions. Or the committee can actually meet via telephone or video teleconferencing—seeing each other on the TV screen as they prepare proposals for the church council meeting.

A loss of the personal touch?

Does this not mean a great deal of depersonalization, a loss of the personal touch in the church? The answer is no. The computer will not depersonalize any more than has the telephone. In fact, the saving of time through more efficient office work will make it possible for the pastor to spend more time in personal conversation, counseling, and contact

with individuals and groups. The time he spends in meetings can be focused more intensely on the real issues, as the computer assists with organizing routine details. Furthermore the pastor will be in almost constant contact with his people through many kinds of electronic communication—at least as available as the physician who carries his "beeper."

Mr. Kornbluh describes tomorrow's "electronic briefcase" as being about the size of today's average case. However, one side will have a letter-sized plastic screen equipped with "touch sensitive" keys and controls—an electronic keyboard. This screen can display text, pictures and indexes, and will have a small telephone for communication with a data network or to record information in the computer's memory.

The other half of the briefcase will have room for a sandwich, calling cards, audio memory chips, and sensitized paper for making photo copies of information from the screen. In other words, one will carry an electronic office and electronic "desk-calendar-date book" which will have access to all needed information—indeed, to entire libraries. We will have less need to develop our memories, but more need to train our brains to use information creatively. "To know" will no longer refer to memorized facts but to the ability to find and use information.

Making your office mobile

When I was teaching at a Greek Orthodox Theological School in the Middle East, I once asked a bishop—who is now a patriarch—how he justified the expense of a chauffeur. He said that with a driver, he was able to keep on the road seeing people constantly, doing his office work while driving from place to place. That style of mobile office will be very common in 1993. When you drive, you will do much more than listen to tape-recorded magazines or language lessons. The electronic office will free the pastor from the church office, allowing him to return to the earlier style of pastoral work in which the pastor spent much time going from home to home.

In a previous article, I described computer-assisted devotions (during a pastor's early morning calisthenics) when the computer reminded the pastor of everyone who had requested prayer in a recorded phone call during the night. I described a computer-assisted morning devotions—during breakfast—at which members of families might join with the pastor through a phone network in a hymn, scripture reading, and prayers. I described a noon conference between a group of pastors— each in a different place—in which they reported progress in the community's service project, using their computers to determine what pastors in other communities were doing in the same area of work.

In the small church, there may not be an office secretary much longer! (Just as many pastors were finally persuading the parish to provide funds for one.) In the time that it now takes for the pastor to tell the secretary to change an addressograph plate, the pastor can type the

change of address into the computer. Most churches which already have computers are using them for keeping mailing lists, typing perfect copies of Sunday's bulletin or the church newsletter, and keeping all the finance records and business information. Next, however, many churches will use their computer terminals for filing information, as an electronic library to organize curricula, and for keeping up-to-date minutes and committee reports. Indeed, the "annual report" to the congregation can be put together with almost no secretarial time, as the computer pulls together the final reports of committees and staff members.

So it is evening and you now wonder what you must do tomorrow, in the year 1993. You ask your computer to prepare a list of everyone with a birthday or wedding anniversary. If you wish, your word processor will type out a form letter of congratulations or greetings, made personal with different comments to each person as appropriate. You might prefer to ask your computer to get each of these persons on the phone for you. Your intelligent telephone will keep dialing until it reaches the person—indeed, the phone may ring a day later when the person gets back into town, with your recorded message asking that person to phone you. Perhaps you will want to consult that person's computer file before the call to see how regularly he or she has been attending worship services, what special equipment (retreats, Bible study groups, action projects) or problems are on the record. You can then make appropriate comments or suggestions concerning that person's spiritual growth.

Your computer will remind you when there are a number of persons who need a therapy group, and will at the same time suggest leadership and resources. It will help you match the needs of your members with specific therapies and programs in your community.

Organizing community visits and activities

Then there is that church survey information on a back shelf of your closet. Remember when members were organized to call at every home on your side of town? You make a list of prospective members and then put the information away, because no one had the time or energy to use it. Now you can use your computer to organize that information and make it useable. The computer can mark each address on an electronic map of your community. When you visit a specific area, the computer can print a list of members and prospective members who live in that area. It can provide information from their files, such as the date of your last visit or church work in which they are involved, that will help you determine whether a visit would be helpful at this time. It can list information, such as work schedules that would affect the timing of the visits. It could merge data from the earlier census with your normal visitation schedule, allowing you to make the best use of your travel time. It could print lists by denomination from the census, which you could share with other pastors.

A Methodist church in Connecticut is computerizing the results of an every-member questionnaire. Now they are easily able to compile a list of all fourth graders who will be given a Bible, a list of all teenagers not yet confirmed, or a list of all young adults interested in a drama group or a Bible study. This kind of information saves more of a pastor's time than you might imagine, and makes it possible to touch people's lives more appropriately and frequently than would otherwise be possible.

Enabling more "tailor-made" ministry

Computer networks can have an astonishing impact upon social and community action. Suppose you have one or two people interested in prison reform or mental health—not enough to set up an effective committee in your own congregation. Through the computer network you can put those people in touch with people with similar interests in nearby congregations. Indeed, in nearly all areas of church life, the office computer will make possible much more "tailor-made" ministry, designed to fit the needs and interests of each person. For instance, you might have only one person with an interest in a particular subject or a need for training in a particular area. You might not have time or expertise to provide individual instruction to meet his needs, but computer-assisted instruction could supplement books in an individualized training program. Pastors within a community could list in their computer network all the educational offerings of their congregations. A member of one congregation could attend a short course offered by another congregation to pursue his individual interests. In other instances, computers could be used to identify individuals with similar interests among the various congregations of a community. This could surface the need for a short course that no congregation, on its own, would have been able to offer successfully. The computer might then provide a part of the instruction for that course.

Proofreading, filing, etc.

The church computer will do proofreading, filing, organization of meetings and reports, scheduling, handling of phone calls, mailings and routine correspondence. It will handle communications and make copies. It will manage the church building, controlling lights and heating, monitoring security and doors. It will keep an up-to-date electronic blackboard, or announcement board. Within ten years, the equipment for these tasks will be affordable by nearly every congregation. Computer hardware is already becoming more powerful and less expensive. New software reaches the marketplace every day, and more and more specialized applications are possible. Networks, organized by denominations, will provide services for small churches in this area. The technology to accomplish these tasks will be as common and available in 1993 as the telephone is now; indeed, much of this service will be available to ev-

ery telephone subscriber, and will be charged to your phone bill much as you now pay for long distance calls.

Is there danger to privacy, will the technology be abused and misused? Yes, there are dangers, and there will be abuse. The bad things are going to happen; the issue is whether or not church leaders will get actively involved in helping shape the powerful tools which are reshaping our human future. The computer/space age is not likely to be the Kingdom of God, but these instruments can be used in the work of the church. The question is not whether you will have an electronic office in ten years, but whether you will be a good steward of this resource.

Computer Technology and the Chaplaincy

Chaplain (CPT) Daniel L. Musgrave

We live in a highly technological society. Computer and computer-like gadgets surround us at any given time. The act of making a telephone call uses a communication system in which computers are employed. Almost all banking services are computer based. The medical community is using computer data banks to gather and make available information on various diseases. Airline scheduling is facilitated by computers; ovens, dishwashers, washing machines, automobiles, home heating systems, games and many other things are made more efficient, more convenient, safe, more fool-proof and more fun by employing computer-like control systems. Books and magazines are produced and distributed using computer technology.

As with all technology, computers can be misused. The power to organize, categorize, store and retrieve large amounts of information is a ministry-multiplier and can save vast amounts of time normally consumed by tedious administrative work. Most chaplains and clergy use an automobile as a tool to multiply their ministry by allowing them to move about their parish. Likewise the telephone (a vast computer network) is used to speed communication and to save time.

Computer technology as a tool for ministry can be used in a myriad of ways.

The issues of depersonalization and privacy must also be addressed in any discussion of the use of such systems in the church or chapel programs. The myth that computers would depersonalize the work of ministry is just that—a myth. "Certainly computers in certain situations, can be impersonal but it is the person who uses the computer who creates this result. By cutting time to accomplish routine and cleri-

Chaplain (CPT) Daniel L. Musgrave is Battalion Chaplain for the 46th Engineer Battalion (Combat) (Heavy) at Fort Rucker. He was the first graduate in the M. Div. program with a specialty in church communications from United Theological Seminary, Dayton, Ohio. Prior to his entrance on active duty, Chaplain Musgrave served various pastorates including, Minister of Communications, Trinity On The Hill United Methodist Church, Augusta, Georgia.

33

cal tasks, computers actually free more time for personal interaction and involvement by ministers and other church workers."[1]

In a recent issue of "Evangelical Newsletter", Jon Johnston coins the name "Evangelical technologist" to describe those who use television, satellite and computer to "evangelize".

> Witnessing itself, employs such stand-offish techniques as bumper stickers, lapel pins and billboards, and the electric Church accomplishes its lucrative goals by using such Madison Avenue gimmicks as: Creation of Perpetual Crisis, followed by an unprecedented opportunity (usually by giving money) to solve the crisis; continual, intimate exposure of the "star" of the show; constant appeal to a sense of guilt and loneliness; and, provision of give-away products in order to cultivate the treasured list of contacts to "milk" systematically.[2]

This is technology at its worst! The use of even the most advanced technology to massage the ego of the user or to build an empire is very poor stewardship. It is also easy to get so involved with the equipment that one loses sight of the use of it as a tool to make one a more effective minister. The microcomputer, like the car or the telephone can be used as a ministry multiplier. The uses are limited primarily by the imagination, because the computer is the most versatile tool that humankind has devised, and the range of its uses almost infinite.

What's a microcomputer?

The *Illustrated Dictionary of Microcomputer Terminology* defines the microcomputer as: "A complete small computing system consisting of hardware and software. The hardware includes the microprocessing unit, memory, auxiliary circuits, power supply, and control panel."[3] The definition doesn't help much does it? Here is a translation:

A microcomputer is a small box that is filled with electronic components that are hooked together in such a way as to manipulate and keep track of symbols (numbers and letters). A typewriter-like keyboard allows you to put the numbers and letters into the box, and a television-like display allows the user to see the results of this manipulation. There is a memory, usually additional electronic parts which allow you to store the numbers and letters in the computer for a short time and some type of magnetic device (a regular audio cassette recorder or a round disk system) to store information for longer periods of time.

This is just a description of the "hardware." What is software?

---

[1]Kenneth B. Bedell, "Computers In The Church," *Circuit Rider,* (April 1982), p. 3.

[2]Jon Johnston, "Turning the Other Chic," Evangelical Newsletter, (August 1981).

[3]Michael Hordeski, *Illustrated Dictionary Of Microcomputer Terminology,* (Blue Ridge Summit, Pa: Tab Books, 1978). p. 169.

Very simply, "software" is a set of instructions that tell the hardware what to do with the numbers and letters. These instructions are written in various computer languages such as BASIC, Pascal, Logo and Pilot.

Computer programs are not, for the most part, transportable from one manufacturer's computer to another's, even when they are written in the same languages. Each manufacturer has his own "enhanced" version of the languages. To make matters worse, the programs are stored differently on the cassette tapes or the computer disks.

Computer languages are very versatile, and can be used in almost any application; however, some languages were developed for specific purposes. *BASIC* is an acronym for "Beginners All-purpose Symbolic Instruction Code." BASIC was developed to teach a more powerful language, but was found to be a simple but capable language in and of itself, and has become the standard language among microcomputers. *Pilot* is a language that is designed for creating computer-aided instuctional programs. *Pascal* is a relatively new language that works much faster than BASIC, but is little more complicated. *Logo* is a language that was developed to teach children how to use the computer. Logo and Pascal show promise of replacing BASIC as the standard language for microcomputers. Both languages are extremely powerful and versatile.

Varied programs available

There are many different and varied programs available for microcomputers. There are programs that are near copies of the popular arcade-type games. There are word-processing programs (like the one on which this article is being written). There are complete money management programs capable of keeping financial records for a small business. Educational programs are available to teach any subject from "Gastrointestinal Inflammatory Disease" to "The Books of the Bible". One company even has the entire King James Bible on computer disk with a series of programs that comprise a kind of dynamic concordance! All of these are available off-the-shelf; some can be modified and tailored for specific applications.

Custom programs can be written for almost any application. If you understand the language, almost anyone can write some of the less complicated programs, and it is possible for specific application.

A microcomputer is a system. The minimum needed is the computer, some kind of input (probably a keyboard), a display (probably a TV-type display), a storage system (a cassette tape recorder or a computer disk system) and some kind of software (programs that give instructions to the computer).

There are many pieces of equipment that can be hooked to the computer that allow you to do some specific jobs. These are called "Peripherals". A printer will allow for the printing of letters, reports, and other documents. Devices called "modems" allow computers to communicate with one another via the telephone lines. There are units that

allow computers to speak and to listen to verbal commands! A graphic system is also available to allow one to draw pictures on a tablet-like device and enter these pictures into the computers' memory. One manufacturer markets a device that can be used to control lights and appliances as well as other equipment automatically under computer control. "Light Pens" can also be attached to the computer to allow communication with the computer by simply touching the pen to the display screen. There are even robots that can perform various tasks by computer command.

The microcomputer can be a ministry multiplier

Small computer systems can be used in many ways to lighten some of the administrative burdens of the military chaplaincy. Their use could free us to spend more time in relating to persons and less relating to paper work. A computer in the chapel would help us to manage our time more effectively.

Microcomputers can be used to keep the financial records of the Chaplain's Fund, thus allowing access to day-by-day and transaction-by-transaction data on the status of the fund. Monthly fund council reports can be formated and printed by the computer on existing forms. End-of-month balances, bank reconciliations and other tasks can be done in less time and with less error by the computer system. Trends can be analyzed and reported quickly and easily, as well as represented graphically, and tracked against the yearly budget. Even the yearly budget can be worked out on one of the "electronic spreadsheet" programs that are designed for the development of budgets.

Chapel attendance can be "tracked" by computer and displayed graphically, and analyzed easily and quickly to reveal attendance trends on which scheduling and other decisions can be made. Allocation and scheduling of chapel resources as well as scheduling of facilities and management of time can be done using some of the programs that are available for keeping calendars and appointments.

New medium for Christian education

Christian education facilities could benefit from the small computers in three ways. (1) Christian educators could develop their own special computer-assisted-instruction programs using the Pilot language, computer graphics and educationally-sound learning sequences. Formal computer educational programs could be developed that would make the learning of concepts of faith more interesting and fun. Some commercial programmers offer religious education packages. (2) Games can be used to stimulate interest and reinforce learning. (3) Church school records can be maintained and constantly updated, class lists can be kept and mailing lists developed for special populations. One could, for example, print a mailing list to send information letters to all third grade girls. One could

print a mailing list to all the church school members who live on a certain street on the post. This information is available in seconds! Such lists would take much time when extracted from existing paper files.

Today's young people come from a world of television, computers and computer games; Christian education, and religious training programs continue to be heavily dependent on the traditional methods of "Books and Lectures." Public education is dependent on these methods, and is also having difficulties in motivating students. The use of computer gaming techniques and computer-assisted-instruction can motivate students to learn in a way that has never before been available. For evidence, one only has to look at the huge amounts of money that is spent each year on arcade games.

Counseling can also benefit from this versatile tool

Richard and Joan Hunt have designed MIRROR, a Couple Relationship Inventory, to be used with couples either in marriage enrichment or premarital counseling. The booklet, answer sheets and interpretative guide can be purchased from the Hunts. After a couple completes the answer sheets, their pastor or counselor returns the answer sheets to the Hunts for scoring. The computer-printed profile provides scores on ninety-six scales and other information to aid the couple in understanding themselves and each other better. This profile would be impossible without the aid of the computer.[4]

This is merely an example. Computer programs may be written that would score any number of the personality and temperament inventories now being used by chaplains. Those psychological inventories that are currently being scored by hand could be machine-scored, optical scanner hooked to a microcomputer. This would allow the counselor to get a complete profile of the counselee within a few minutes.

The Hunts are developing computer-assisted instruction materials for couples to use as a supplement to the United Methodist marriage book, *Growing Love in Christian Marriage*. These interactive computer programs can be used on an Apple II [a brand name] or similar microcomputer in a local church setting.[5]

Like the Hunts, some of what we do as counselors is educational. Games and instructional programs can be developed to help counselees to learn certain concepts and ideas. Some information may be embarrassing to the counselee. Computers don't make judgments; therefore it might be easier to interact with the computer to pursue sex education.

---

[4]Kenneth Bedell, *Using Personal Computers in the Church* (Valley Forge: Judson Press, 1982), p. 64.

[5]*Ibid.*, p. 64.

Word processing can assist chapel staffs in some of the every-day tasks of writing letters and reports as well as the preparation of worship bulletins and other routine tasks. Letters could be formatted into various types: Military, non-military, disposition form, etc. The user would type the pertinent information, and the computer would print the document in correct format. Routine reports could be likewise formatted, awaiting only hard data to be plugged in and printed in the correct form.

Sermon preparation

Word-processor programs could be very helpful in sermon preparation. One could retrieve Biblical texts from a bank of texts and print them in the outline or manuscript. Likewise, illustrations could be catalogued, retrieved and printed by the computer into the sermon notes. The word processor would also be able to move blocks of the sermon around so that the writer might "cut-and-try" different patterns of ideas, changing the flow of the sermon.

The Bible on computer disks

Today the King James Bible is available on computer disks: Tomorrow large libraries will be available on laser disk systems similar to video disks. These large, encyclopedia-like data bases will revolutionize Bible study and allow one to own large theological libraries at a small cost. This will also allow for almost instant access to ideas and information that would take days of hunting through the library. Even now the technology and the software exists to allow you to keep on file sermon illustrations and to access them by title or by topic. There is off-the-shelf software that will allow you to catalog and maintain your professional library.

Expanded in formation base

Computers can communicate with other computers via telephone lines. By this method, your microcomputer can send reports to other offices, higher headquarters or to another computer elsewhere in a matter of minutes. Such capability to communicate allows you to access large computers to get information. Today, personal computer users can subscribe to a number of "remote data base" services in which they can get information on stocks, bonds, current events, read any number of newspapers, send electronic mail to each other, schedule themselves on airlines, even shop for clothes. It is possible to query library card catalogs in order to develop bibliographies and to do research. There is even a library data base that has information on all the films that are owned by the Department Of Defense. This communication capacity would allow access to future banks of information that various religious denominations will develop.

There are some costs associated with this new technological assis-

tant, not the least of which is the fact that we and our staffs must become computer literate. This takes time and patience. There is also the problem of all electronic equipment—it sometimes breaks down. Another problem is that computer equipment becomes outdated rather quickly. In spite of these difficulties, the small computer has become a tool of the times and should become a tool of ministry.

A study by a major church body sums it up

The implementation of computer technologies by early innovator congregations has dramatically altered the mix of time spent by congregational staffs. Energies that were formerly drained with accounting and record keeping activities have been freed to organize volunteer programs using computerized talent and skill banks, to plan visitation and prospect follow-up, and to assist in identification of members whose needs require special attention. Test congregations have shown the computer to be a powerful tool for ministry if the computer is managed properly. For example, a computer can be programmed to identify and facilitate the follow-up required in funerals, baptisms, confirmations, weddings and special services in some congregations. A computer can be used to provide early warnings by calling to mind the lack of participation of unnoticed members or to alert the pastor to a special day in the life of a member. Boxes of worn visitation cards may be replaced by television screen displays and printouts matching visitor to visitee by location. If a parish wishes a special report for follow-up this can be a simple task with a congregational computer.[6]

---

[6]Thurman O. Francisco, "If Your Congregation Is Thinking About Using A Computer" (Lutheran Church Missouri Synod, 4 March 1982), p. 2.

Breaking Ground:
The Army Chaplaincy in the Age of Tectronics

Chaplain (CPT) Thomas W. Mitchiner

In *Future Shock,* Alvin Toffler wrote:

> It is vital to understand . . . that technological innovation does not merely combine and recombine machines and techniques. Important machines do more than suggest or compel changes in other machines—they suggest novel solutions to social, philosophical, even personal problems. They alter man's total intellectual environment—the way he thinks and looks at the world.[1]

This article focuses on some of the implications that the current technological innovations in microcomputers might have for the chaplaincy.

The changing tectronic environment

So far in the stream of history there have been three ages of human social existence. Now we are on the verge of the fourth age. The first was the nomadic. It was supplanted by the age of agrarian society, which in turn was supplanted by the age of industrial society. As each new age has emerged, the less advanced societies and the less advanced individuals and institutions in advanced societies have been relegated to the backwaters of history. The fourth age which is emerging is the age of *tectronics,* which is the application of *technology* in the area of *electronics* that makes possible powerful tools for interactive automatic data processing (ADP). Both the Army, through the Army Management In-

---

[1]Alvin Toffler, *Future Shock.* (New York, Random House, Inc., 1970) p. 29.

Chaplain (CPT-P) Thomas W. Mitchiner, received his Bachelor of Science degree in the areas of Public Administration from California State University at Long Beach (1968), his Master of Divinity degree from American Baptist Seminary in California (1972), and his Master of Education degree in the area of Management from Boston University (1981). After his initial active duty tours at Fort Bragg, North Carolina, and in USAREUR, he attended the C-22 course where he wrote the following article as part of his self-directed phase. He is currently assigned to the 2AD at Fort Hood, Texas.

formation Systems (AMIS), and certain religious denominations have provided leadership in the use of this new technology. The age of tectronics cannot be ignored by the Army chaplaincy. Careful planning is essential so that its possibilities best serve the functions of our ministry.

In the Army, ADP management has gone from a totally decentralized concept in the early 1960's to one based on the need for intercommunication and compatability of systems at all levels. Specific procedures for acquiring an ADP system are outlined in AR 18-1. While the tenor of DA directives on the subject of ADP systems encourages maximum exploitation of its potential, it approves systems only when and where the costs are fully justified.[2] These costs are falling quickly and dramatically, so justification will soon become less of a problem in acquiring microcomputers.

New DA policy now recognizes the present trend toward small computers and has taken several initiatives to assist potential users in planning for the acquisition and use of small computers. HQDA lists the following five prime objectives which a potential user needs to address in planning for the acquisition and use of small computers:

1. **Ease and economy of acquisition:** There are two separate procurements underway to provide standard *mini*computers that could result in a set of basic ordering agreements with major *micro*computer manufacturers. Any ADP equipment user could acquire microcomputers in a very rapid manner by ordering from these contracts.

2. **Software portability:** As microcomputers increase in capability, substantive amounts of application code are being developed. It is prudent to ensure maximum portability between different generations and makes of microcomputers.

3. **Protocol/Interface issue:** Although microcomputers are being procured primarily as stand-alone processors, the trend toward distributed processing will allow these devices to be used as terminals to larger data-based machines as well. Each individual activity procuring microcomputers should be sensitive to this secondary use.

4. **Security:** Microcomputers are not suitable for processing classified information. Users must be aware of the risks inherent in the use of micros in places where classified information might be inadvertently placed on the machine. This is also a limitation on the use of micros as terminals. AR 380-380 applies to these machines as well as all other ADP equipment.

5. **Communications:** Communications requirements must be addressed early in system planning. The local communications/electronics officer must be made aware of communications needs as soon as they are identified.[3]

[2]Anonymous, *Principles of ADP Management M-130.* (Indiana, United States Army Institute of Administration, 1978) p. 2-17.

[3]Anonymous, *Small Computer Guidance.* (Washington, D.C., DAMO, March 82) 312142Z.

Along with the development of the small computers has been the development of software programs that make these computers perform. With proper software and a printer, the small computer can function as a word processor. Change the software and it will do accounting. Change software again and it can print graphs of counseling or attendance trends. Change it again and it will do statistical analyses of the parish.

The younger generation will be as familiar with computers as the present generation is with the television and small calculators. Our future soldiers are learning about the tectronic age through computer games. Refinements of the entertainment games are being programmed to teach military skills. The real challenge is to start to understand the implications of this new age. This article can merely raise some of the issues.

Theological issues

Theologically the emerging tectronic age is just as profound as the Copernican revolution. The Copernican revolution challenged human worth by removing the earth from the center of the solar system. Advances in electronic technology challenge human worth by creating super-human computer intelligence. After God rested, man created computer intelligence. Intelligence can be defined as, "the capacity to apprehend facts and propositions and their relations and to reason about them."[4] The computer can apprehend more facts, propositions and relationships than any person, and can perform its calculations faster than any mortal.

As more information is stored in data bases, the computer becomes the closest created thing to God's omniscience. While God often limits our access to His knowledge, the omniscience of the computer can be accessed easily, replying to inquiries with video images, verbal replies, and hard copies. In the age of tectronics, people who have access to computers will hold worldly power. The danger is that they will be tempted, as were Adam and Eve, to be like God.

As a tool, the computer increases experience of the world of things. Martin Buber saw the experience of the world of things as belonging to the primay word I-It. The computer, as an experience of the world of things, is not a threat to human worth. It becomes a threat to human worth when viewed as belonging to the world of relation, which belongs to the primary word, *I-Thou*. Martin Buber saw the world of relation arising in three spheres:

> First, our life with nature. There the relation sways in
> gloom, beneath the level of speech. Creatures live and move
> over against us, but cannot come to us, and when we address

---

[4]Philip B. Grove (ed.), *Webster's Seventh New Collegiate Dictionary.* (Massachusetts, G. C. Merriam Co, 1966), page 589.

them as "Thou", our words cling to the threshold of speech. Second, our life with men. There the relation is open and in the form of speech. We can give and accept the "Thou". Third, our life with spiritual beings. There the relation is clouded, yet it discloses itself; it does not use speech, yet begets it. We perceive no "Thou", but none-the-less we feel we are addressed, and we answer—forming, thinking, acting. We speak the primary word with our being, though we cannot utter "Thou" with our lips.[5]

The computer now forms a fourth sphere in which the world of relation arises. Like the relation with men, it is open and in the form of speech, and like the relation to spiritual beings we are addressed and we answer—forming, thinking, acting.

If theology does not meet the challenge to human worth imposed by computers, the worth of Luke Skywalker may pale significantly by comparison with future generations of R2D2's. R2D2's may seem more vital to future progress and mission accomplishment than less intelligent human carbon units. Future military commanders may have to choose between saving a Luke Skywalker or a R2D2. Which do you save when the R2D2 is judged as more necessary for mission success?

New words from an emerging age

Just as each of the first three ages gave humankind new words, so is this emerging fourth age. Today's computer language includes over 32,000 words, phrases, and acronyms. Eventually words like networking, data base, and modem will be infused into our theological vocabulary to give new meaning to old concepts. *Networking* refers to the interconnection of a number of points by data communication facilities. The concept gives a new way to look at the interconnection of local churches. *Data base* refers to the collection of all data used and produced by a computer program. The difference in the data bases will become new denominational distinctives. A *modem* is a device that provides the appropriate interface between a communications link and a data-processing machine or system. If prayer is defined as a communications link, the modem is analogous to the working of the Holy Spirit interfacing between the supplicant and God.[6]

The technology of computers not only provides new words, but computers themselves also use special languages.

Each computer manufacturer has his own machine language for its computers. Considering the number of computer manufacturers, computer languages are almost as

[5]Martin Buber, *I and Thou.* (NY: Charles Scribner's Sons, 1958), page 6.
[6]Donald D. Spencer, *Computer Dictionary for Everyone.* (New York, Charles Scribner's Sons, 1977) pp. 60-133.

numerous as the speaking jargons of the human race.[7]
The confusion of language reigns, as at Babel, in the industry. The industry, however, is also experiencing a Pentecost of sorts that is reversing the confusion.

> Since the Department of Defense (DOD) was the largest
> single user of computers, it follows that DOD would start
> action to develop a common computer language.[8]

In April 1960 DOD's efforts resulted in the first Common Business Oriented Language (COBOL). It is independent of any make or model of computer. It can be translated into any language, allowing people to work on common tasks through a computer that can understand and speak to each person in their own language. It is a secular "glossalalia."

Tool for religious research

Not only does the tectronic age influence language and communication, it provides a powerful tool for sorting and storing old religious data. After fifteen years of research, the *Responsa project* was completed by Chicago's Institute for Computers in Jewish Life in conjunction with Bar-Ilan University in Israel, which has its own computer. The Chicago computer houses 200 volumes, most of them in Hebrew, that contain the social codes and values practiced by Jews since Moses walked down Mount Sinai with the Ten Commandments. It is a religious repository of some 40 million words, including almost 40,000 formal rabbinic "responsa" or authoritative replies on questions of Jewish tradition. The system is designed to retrieve all places where key words are found on subjects ranging from adultery to the use of garlic. For example, if scholar wants to find the words "beautiful woman", the computer reads every book and finds all the places where those two words occur.[9]

Besides storing and sorting old religious data, the computer's ability to analyze is leading to new conclusions about the meaning of old data. Since the 19th century, Protestant critics have emphasized the diversity of the authorship of the Pentateuch, arguing that the material in the first five books comes from the four sources: The Jahwist (J), Elohist (E), Priestly writer (P), and Deuteronomist (D). Now this four-author thesis is under a powerful new attack. Bible scholar Yehuda Radday of Haifa's Israel Institute of Technology reports that a five-year computer study of Genesis shows that it is the work of a single writer and that the J.E.P.D. theory must be rejected or at least thoroughly revised.

Raddy is already hard at work on *Exodus* and will then search *Leviticus, Numbers,* and *Deuteronomy* using the same 56 criteria of

---

[7] Anonymous, *Principles of ADP Management M-140.* (Indiana, United States Army Institute of Administration, 1978) p. (1)-7.

[8] *Ibid.,* p. 8.

[9] Anonymous, "Wisdom of the Ages Housed in Computer," *Asbury Park Press.* (NJ: Asbury Press Publications, April 16, 1982), page A-22.

language behavior found in the words of the Hebrew text such as the use of conjunctions and word length that are outside the conscious control of an author. Raddy earlier had won wide acclaim when his computers, using the same criteria, supported the conventional theory that multiple authors produced the books of *Judges, Zechariah,* and *Isaiah.*[10]

Administration and management utilization

One of the most common uses for microcomputers is word processing, but if utilization is limited to word processing alone, the computer is being under-utilized. It has vast potential for storage and retrieval of data, as well as ordering, sorting, calculation, and analysis.

Currently at Headquarters, Department of the Army, Office of the Chief of Chaplains (DACH), a wide variety of computer applications has been instituted. Some of these applications utilize a microcomputer, while others involve communications interface with mainframe computers within the Pentagon and at MILPERCEN. Word processing and data management programs have been utilized to establish an ADP profile of 42 data elements on each chaplain which is used as a tool for action officers making personnel management decisions. The annual publication of the Active Duty Chaplain Directory is a by-product of that program, containing 7 data elements on each chaplain, alphabetized by last name. A wide variety of "sorts" is possible using this program and the MILPERCEN data base as a means to identify individuals who meet specific criteria of training, denomination, availablity 'for PCS, age, grade, assignment experience, etc. This provides assignment and selection officers with accurate and timely information and so enhances the decision process. Computer output is only as good as the accuracy and timeliness of the data base (input and memory), but as long as the base is well maintained, the computer's ability to manage large amounts of data makes it a vital tool in personnel decision making.

Computerizing fund management

Fund management operations have been computerized at DACH as well, and DA Chaplain Fund records can now be posted and displayed using a microcomputer spreadsheet program. Adaptation of that program has allowed the DA Chaplain Fund Investment Program to provide daily compounding of interest, paid on a day in-day out basis, posted and reported at the end of each quarter beginning with 1st Quarter, FY 83.

The Directorate of Combat Development at the United States Army Chaplain Center and School (USACHCS) keeps track of on-line TOE's and projected TOE's. In October 1983 the Army will go to the J

---

[10]Anonymous, "By One Hand, Computers Reread Genesis," *Time.* (NY: Time, Inc., Dec. 7, 1981), page 97.

series TOE's which will add 155 positions to the chaplaincy by increasing the number of chaplains in each division to an average of 30. Combat Developments has access to the linear program in the data base showing the TOE positions for chaplains throughout the Army. However, this data base does not show the impact of adding these positions on recruitment, assignment selection by rank, and the promotion rate. Combat Developments is moving toward the use of simulation models to analyze the input of TOE changes on the whole personnel system as an aid in decision-making. This office is in the forefront of moving the chaplaincy into tectronic utilization.

A tool in decision making

Simulation modeling makes the computer an effective tool in decision making. Creativity is the only limit on developing simulation models. As a guide in making assignment selections, a simulation model can be developed to match the ADP profile on each chaplain with the known future assignment vacancies. Simulation models can help match civilian and military schooling for chaplains to present and future assignment utilization. What impact would there be on the chaplaincy if more schooling slots were available or if they are cut back? What impact would a statistical model have that demonstrates the need for an additional 100 qualified hospital chaplains? What impact would adding 100 qualified hospital chaplains have in the assignment and schooling process?

Networking the chaplaincy

Because of the ability to communicate using existing telephone lines, the use of computers makes it possible to network communications throughout the chaplaincy. One of the problems in an hierarchical organization is the danger of losing touch with those serving on the lower echelons (or the corollary problem that those on the lower echelons do not feel that they have input into policy decisions that affect them.) Some designs for computer network systems allow for a scientific sampling of people in lower echelons, automatically sorting and analyzing the data into useful output. DACH could get a scientific sampling from chaplains in the field on Key Result Areas or other DACH programs. Through networking, chaplains will be able to do computer conferencing, as well provide timely individual or mass electronic mail.

As the religious denominations develop their own computer networks, chaplains can tie into them to give input and obtain current information. While there are over 1400 commercially available computer networks, computer networking for churches is still in its infancy. Substantial growth can be expected in this area in the near future. Through networking, DACH is already tied into a large Army data system called OPTIMIS. It is an automated research system that allows the user to

search an unclassified data base of approximately 190,000 document references. Using a "key word" search technique, the user can quickly determine if the data base contains references relevant to a project. Access is through the telephone system using standard portable or screen terminals. OPTIMIS, residing on a TAGO maintained minicomputer in the Pentagon, is expanding steadily through new references received from staff agencies and action officers.[11]

Where a post chapel visitor program is used, a list of prospective chapel members can be fed into a computer and sorted by area code for visitation. After the visit, those that indicate no interest in the chapel program can be removed from the list. Those that indicate interest can fill out an interest survey containing a privacy act statement. Where chapel attendance is taken, it would become apparent if those indicating interest come to the chapels. If they do not come, a follow-up visit by the post chapel visitor can be made in four weeks. Even where attendance is not taken, a follow-up visit should be made. If they are going to a chapel, the contents of the interest survey should be made available to the chaplain responsible for the service. In time, the chaplain responsible for a service could get information on the attenders by categories such as music activities, religious education, leadership activities, and recreational activities. With a DEROS date, the computer can give a list of those in a chapel leaving each month and remove their names from the list of attenders after sending them a farewell letter.

All accounting functions can be done with a microcomputer. The micro can be programmed to indicate when funds reach the point at which no further checks should be written. It can keep track of each denominational subaccount and stewardship for each chapel. With a printer, it can provide a financial report for the fund council meetings.

Educational utilization

The computer can perform all the ancillary functions of administration and management needed in the area of religious and professional education. It can keep enrollment records and records on student progress. With the proper program, the computer can order the correct amount of religious literature and keep track of invoices. It can be used to catalog religious literature, films and cassettes in a religious resource center. Because of its interactive ability, the computer can teach teachers, as they prepare religious education classes. It can serve as a tool in a learning resource center where students can do individualized programs in areas of special interest. The United Methodists have done a series of computer-assisted programs on theology, doctrine, polity, and church history, in addition to Bible studies and a junior high series on human sexuality.

[11]Anonymous, *Optimis Newsletter.* (Washington, D.C., Office of the Adjutant General, Feb. 1982) p. 1.

In the area of professional education, each course can be broken down by tasks which eventually can serve to justify budget and manpower requirements. The Training Development Office at the US Army Chaplain Center and School (USACHCS) has just finished preparing critical task list for the Training Development Information System (TDIS), a data base on a TRADOC computer. Built on top of TDIS is the Army Extension Training Information System (AETIS) for which the Exportive Training Office at USACHCS is providing input. Along with other information, the tasks will provide justification for USACHCS budget and manpower.

Eventually the exportive training at USACHCS will use some form of Computer Based Education (CBE). CBE covers four broad areas. Computer Assisted Instruction (CAI) includes the use of drill and practice, tutorial, inquiry, dialogue, simulation games and problem solving. Computer Managed Instruction (CMI) includes diagnosing students' needs, prescribed learning activities, and evaluating student achievement. Comprehensive computer-based education instruction includes CAI and CMI in conjunction with a systematic curriculum plan and multimedia learning activities. The fourth area is the CBE ancillary services.

Students enrolled in exportive training courses will take their lessons to a computer where they will progress through an individualized unit of instruction. Each unit is made up of blocks of instruction. Each block of instruction will require a pretest. If the pretest is a "go" the student would go directly to the next block. When a student gets a "no go" on the pretest, the student would then work through the block of instruction. If the student gets a "no go" on the post test, he would be automatically recycled through the block again until he gets a "go." At that point, he would proceed to the next block of instruction, taking another pretest. After the last block of instruction, the student would exit from the unit.

Getting on board

The chaplaincy must seek ways to exploit the new ADP tools. The Administration and Management Division of the Office of the Chief of Chaplains, which has been given proponency for ADP applications within the Army Chaplaincy, must do the following: (1) Determine the needs for microcomputers in the chaplaincy. (2) Make recommendations as to the size and type of hardware needed to meet these needs. (3) Identify software which can empower the hardware to do its job. (4) Establish training objectives (in coordination with USACHCS) to insure that chaplains and CAS's can use the new tools effectively. (5) Oversee networking and access to data bases.

Once needs are identified, a specialist in computer science can be contracted to do a feasibility study. The feasibility of the use of computers should be tested four ways: First, the *technical feasibility* can be

determined by analyzing capabilities/applications of hardware and software in current use. Second, *economic feasibility* should be considered by estimating start-up and operating costs and comparing the costs with savings. The third area which impacts on automation is the *operational or behavioral considerations.* The final area is the *implementation schedule.* The Programs Evaluation Review Technique (PERT) has proven to be a valuable tool in anticipating problem areas relating to the implementation of an automated system.[12]

Unless chaplains and CAS's understand the capabilities of a microcomputer, they will not be properly utilized. Proficiency standards in ADP for chaplains and CAS's could be indicated in their personnel files. These proficiencies might be better indicators of a person's ability to perform some jobs than would academic degrees. Computer proficiency might be more crucial than an M.B.A. to a pastoral coordinator. These proficiencies could be considered in making assignments.

Appropriate training must be devised. Chaplain Basic Course students should learn the skills necessary to use computers in chapel ministries. Chaplain Advanced Course students should learn the skills necessary to use computers in general administration and management functions. In the functional course for pastoral coordinators, the special skills necessary for their level should be taught. Part of this instruction could be available in an exportable mode. USACHCS could develop programs which could be made available (through the Army Correspondence Course Program) to chaplains in the field. These programs could teach computer skills.

In some cases, chaplains and CAS's will not actually have to run the computers. Like word processors, they will often be operated by individuals in civilian hire positions. Even where this is so, the chaplain or CAS must understand the computer well enough to supervise the work.

One of the problems of using commercial telephone lines and a modem to communicate with other computers is noise. This noise can garble the material being sent. Network companies sell clear lines reducing the noise distortion. There are also military lines. As computers proliferate in the Army, we can expect that a network of clear lines, suitable for computer communications, will be adopted in the military. These would be analogous to the current AUTOVON system, except that the quality of signal would be vastly improved.

As local churches, denominational headquarters, seminaries, and nondenominational religious resource centers develop data bases, chaplains need to determine which ones would serve their needs. In many cases, we will be able to subscribe to the services. The Army also has many data bases and their usefulness to the chaplaincy also needs to be explored. We must also determine what data bases the chaplaincy

---

[12]M. J. Cerullo, "Maximizing Computer Utilization in Business," *Baylor Business Studies. No. 115.* (Feb/Apr 1978) pp. 23-30.

should create. Thought must be given to the issue of which chaplains will be given the code word for access to the various data bases. We must also consider whether funding for subscription services should be done locally or should be consolidated at DA level.

Summary and conclusion

While the use of the new generation of computers in ministry may seem antithetical to a profession that is people-oriented, computers are part of our emerging new age:

> . . . computers can be used against people, or as a means of controlling them, and such uses can be considered anti-social. Ideally, man's tools should function in the service of man, to make life easier and more enjoyable. . . .The trouble is that what one man views as fruitful, profitable, and progressive, another man may see as destructive, harassing, or crippling.[13]

Properly used, computers can free chaplains to spend more time with people, serve as an aid in decision making, provide a new medium for religious education and professional development, and create a network for communication. If the tools are not exploited, the chaplaincy will not keep pace with either the Army or religious denominations that are embracing the emerging tectronics. We are at the edge of a new age. Let us enter it.

---

[13]Fred Gruenberger, *Computers and the Social Environment*. (Los Angeles, Melville Pub., Co., 1975) p. 2.

Computers in the Chapel:
Be Not Afraid

Chaplain, Major, John J. Stryjewski, USAF

"You've got a what in your office!!??"

That question/exclamation comes rather regularly from friends and associates when I tell them I have a computer in my office. Most folks know only the game variety of computers which they see advertised on TV or in magazines. I'm always ready with the answer to their second question: "What kind of games does it play?" None!!!

I first became interested in computers when I taught math at Archbishop Ryan High School in Philadelphia (1966-1978). None of us on the faculty were "computer literate" so we sat down with books and began to experiment with "Basic"—a "language" which enables folks to make the computer work for them.

I'm still a computer novice when it comes to understanding the technical aspects of these wonderful machines, but I've long since lost my fear of them.

When Chaplain Richard Donovan visited Maxwell AFB in January of this year, he asked me to write an overview of my involvement with office applications. I'll try to do so by explaining the machine itself and then detailing some of the specific tasks it helps us accomplish.

Hardware—parts that make the whole

My computer is an S-100 Bus machine. "S-100 Bus" is one form of computer architecture which designs together a power supply and a number of electronically interconnected slots. These slots hold "boards" which then operate together to perform various tasks. The first board houses

Chaplain Stryjewski, Franciscan priest, is the Catholic pastor at Maxwell Air Force Base, Alabama.

the "computer" itself. The second through fifth boards contain "static memory" (the computer's brain). The sixth and seventh boards are "disk controllers" (they interface the computer with 5″ and 8″ disk drives—much in the same way a simpler circuitry interfaces a power amplifier and turntables in a stereo system). The eighth board is a modem (which allows the computer to access other computers over telephone lines). The ninth is an I/O (input/output) board (which allows the computer to send information back and forth between the console and the printer).

Within the S-100 Bus housing, there is space to locate three 5″ floppy disks. Each of these stores approximately 146,000 (146K) bytes of information. Think of a byte as one letter of the alphabet. In a separate unit beneath the S-100 housing, but connected to it by a multi-path cable, are two 8″ drives, each storing about 970K. The computer reads from the disks to its memory, and writes from ITS memory to the disks. Various "programs" are stored on the disks as are other information files.

Connected to the S-100 housing by cables are two other peripherals. The first is the console which is a keyboard (essentially like a typewriter's) and a TV-like monitor (sometimes called the "CRT"—cathode ray tube) which displays information in an 80-character by 24-line format. The second peripheral is a daisy wheel printer which handles paper up to 15 inches wide and prints optimally at 45 characters per second.

Software—directions that make it work

To this point, it all looks very nice but it can't "do" a thing. Every computer needs a fundamental set of instructions that enable it to accomplish meaningful tasks. Lump all possible "instruction" sets together and you have what's called "software."

The first and most important set of instructions comes by way of the machine's "operating system." Basically it tells the computer what hardware makes up the particular configuration and how to communicate to and from each part. For example, my operating system has the nomenclature "CP/M 2.2H" which means it's the Control Monitor Program, Version 2.2 sold by a West Coast firm and is in its eighth adaptation by the hardware manufacturer of my S-100 Bus configuration. Any program that I try to use must be compatible with CP/M (that is, must follow CP/M's instruction set).

After the operating system, there come two fundamental classes of software. The first of these is the class of commercially-prepared programs which do a specific task. I have two such programs. The first program enables my computer to act like a word processor. The second program allows me to merge data from two different files. The second class of software includes computer "languages" which allow the user (me) to

program tasks for the computer to accomplish. I have one such "language" called CBASIC, one of the many "dialects" of the BASIC (Beginner's All-Purpose Symbolic Instruction Code) developed under the direction of Kemeny and Kurtz at Dartmouth College.

The computer's work at the chapel

The applications for which I use the computer fall into the same two categories into which I divided software: word processing and in-house programmed uses in CBASIC.

I usually print a Sunday bulletin that runs on for eight pages. Maxwell, probably more than any other Air Force base, has lots of folks both visiting and attending schools for longer and shorter periods of time. We feel that we need to give them as comprehensive a bulletin as possible, if they're to take advantage of our parish programs and their skills and ministerial inclination while they're a part of our parish.

The first page of the bulletin lists the particular Sunday, gives the theme, some exegesis on each of the readings, and a thought or two to think through. Since these themes will repeat over the three-year cycle of readings used by the Catholic Church, I'm setting up this first page according to the Lectionary numeration for each block of readings. For example, the first Sunday of Advent in Cycle A has (1) as its numerical designation. My file for that Sunday would be LECT-001. The next time it comes around, I'll have the bulletin's first page finished—or a least a good start on a better first page! The second page lists up-to-date recurring activities and some basic information. Whenever we have an update, only a small part needs changing. Pages three and four give the daily calendar beginning with the current Sunday. (We actually only call in as much of the calendar—which is maintained as a separate file—as we can print on two pages.) Page five is a leadership directory made up of names and phone numbers for Parish Council Members, Parish Coordinators, and liaisons with area programs (e.g., Marriage Encounter, Knights of Columbus, etc). Page seven hits the current announcements and promotions. Page eight opens with a "Happy Birthday" to those who mark birthdays in the coming week (another computer file keeps this up-to-date) and closes with any additional announcements.

The Parish Council is working on a comprehensive Constitution. We're in our third revision now. It certainly is nice to have to type only the changes and to have the machine do the whole new version automatically!

We try to project a day-by-day calendar for at least three months in advance. Having it in the computer and merely inserting late or changing information surely makes a better final copy. It prods us to think ahead as well!!

I also set up the agenda for our fund council meetings in the same format which the minutes require. That way we have a clean copy of

what we're about, have a minimum number of notes to make, and have a draft of the minutes within ten minutes of the meeting's adjournment.

We also have various formats we use for checklists, repetitive letters, and so forth. Again, we save lots of time by having only to change dates, a word, or a phrase to have an accurate update. One special form of repetitive letters that we use is the appreciation letter. The basic text of the letter defines itself in one file, the particular information in a second "data" file. We run the basic letter, the computer prints it, utilizing particular information in the appropriate places from the data file.

The in-house programmed uses of the computer are all of the "dirty" variety. "Dirty" in this sense means that probably no one but the programmer can run the program! None are "user-friendly." Each has a "name" which makes sense only to me but still performs some tasks I consider valuable.

"MEMINDER" is a program which minds the progress of memos or short letters that I write. It counts the days elapsed from the initial writing, reminds me of suspense dates, generates a reminder to me for a follow up request to the addressee.

"1421nnnn" (where the "nnnn" is replaced by the last two digits of the current year and the digits—01-12—of the current month) balances the fund check book and then generates the data needed for the monthly report form (AF 1425).

"MINPRINT" stores the ministerial service schedule and prints it automatically in a four-column-by-four-line format on an 8-1/2 × 11 inch paper. This program also has the ability to begin printing the schedule with whatever service I choose.

The biggest and most frequent use of the computer revolves about a data file which we call "DIRECT.ORY" DIRECT.ORY lists in order, for each parishoner: Rank, first name, middle initial, last name, local address, zipcode, home phone, duty phone, date of birth, and a service code. Several programs work on the data file.

"DOBSORT4" goes through DIRECT.ORY picking up the name of the parishoner and his/her date of birth. It then writes the name and the day of the month to one of 12 separate files (#1 for January, #2 for February, etc.). After finishing the entire list—at the present we have 624 registered members—it goes back over the 12 temporary files and rewrites each arranging all the names within a given month according to the day, beginning with number one and ending with thirty-one. When it comes time to wish "Happy Birthday" in the bulletin, I just call up the whole month and erase those entries I don't need for a particular week). DOBSORT4 does its job in about five minutes.

"DIRSORT" works much the same. However, it zeroes in on the service code data. The data are arranged in one string of letters that might look something like "*M1EmFcQTe." In this case, the individual has identified himself as a Male, Eucharistic Minister, Fund Council Member, Head of the Household, and a Teacher. We have some seventy

such designations. DIRSORT creates a file for each of the most used lists (e.g., Eucharistic Ministers) and writes necessary information on each individual into the appropriate file. On completion of its run, DIRSORT will have generated up-to-date lists which find their way into the hands of parish leaders who need one or another in the performance of their duties.

For those categories which are not set up as special files (e.g. Babysitters), we run "PRINTSIT" which runs through DIRECT.ORY and prints on paper those who have listed themselves in that category. At present we use PRINTSIT to generate class lists for all our students in Sunday School (CCD). Each Student carries an "S+" indicator in his/her service code. A full indicator would look like "S+08A" which would mean an eighth grade student in section A. By coding in this manner we can call out an alphabetic roster of all students, or of all students within each of the classes, or of all students within each of the sections. There are a number of other programs, but they're all geared to producing data in various formatting styles.

Conclusion

I hope, for those of you who haven't had the opportunity to look closely at what you can do with computers, that you will start—soon, today!!?? I've assembled some printouts of our bulletins, form letters, lists that I'd be glad to pass along to you (if you send an address label). I also have a list of do's and don'ts that I use as a guide when I think about buying something more. If you want either or both, send your address label to 3800 ABG/HC (Building 155), Maxwell Air Force Base, AL 36112, Attn: Catholic Chaplain not later than 30 June 83.

We can, I think, use computers to free ourselves from the paper fetters that chain us to desks too often. It doesn't make too much difference what you know now. Just get started and "Be not afraid!"

U.S. Census, Computer Summary Tapes: Implications for Ministry

Dr. Peter M. Becker

Limited utilization of census data by churches predates computer accessed data bases. Working with the New York Federation of Churches in the early 1900's, Dr. Walter Laidlaw approached the Bureau of the Census with the need for data based on smaller geographic units within cities for analysis of populations for ministry. Out of these efforts arose the concepts of census tracts. These were defined for New York, as well as several other cities, and were first used in 1910.

Other efforts followed those of Dr. Laidlaw in several denominations and agencies within the church through the 1960's. All faced limitations: availability of appropriate data items; data for small geographic units, e.g. tracts, block groups, blocks and enumeration districts; and the necessity of aggregating data from numerous printed reports to "fit" service areas of interest.

With the announcement of plans for Summary Tape Files for 1970, which increased measureably the data available, interest in accessing these data for use in church planning increased greatly. Some denominations and agencies were able to support access to census data—both with staff, computing facilities, and financially—within their already existing structures.

Many denominations and agencies found that they lacked one of the key components—staff, computing facilities, or finances—to provide access to census tapes within their own structures. A number of these organizations began to pursue the possibility of cooperative efforts to gain access to 1970 tape files. Early in 1971 four denominations—The

Dr. Becker holds the B.S. in Ed. degree from Concordia Teachers College, River Forest, Illinois, and M.A. and Ph.D. in Sociology from Northwestern University, Evanston, Illinois. He began his service in the teaching ministry of the Lutheran Church—Missouri Synod as principal and teacher in Chicago. Since 1965 he has taught sociology at Concordia College, where he has served as Department Chair, Director of Research, and currently, as Director of the Center for Social Research in the Church. He has also served as Treasurer of the Illinois Sociological Association; has served the church on several boards; and has published articles on research in the church and on urban ministry. His latest efforts have been to develop materials for a current series of national census training events for church leaders.

American Lutheran Church, The Lutheran Church in America, The Lutheran Church-Missouri Synod, and the Southern Baptist Convention—founded a consortium of church organizations and agencies with the expressed goal of working together to aid churches in accessing census data on computer tape files. This consortium, Census Access for Planning in the Church (CAPC), has grown in the last twelve years to include 26 religious groups representing over 30 million adherents. From its beginning CAPC has been closely associated with, and served by, the Center for Social Research in the Church (CenSRCH) at Concordia College, River Forest, IL.

Five elements were deemed necessary for the use of data in Census '80:

1. Acquisition of 1980 Summary Tape Files
2. Programming "Packages" of data for church use
3. Training several hundred additional persons within the church in the use and interpretation of census data
4. Computer graphics capability
5. Access to CAPC packages by computer terminals in remote sites

These elements developed in CAPC's program for the Eighties named Enhancing Access for Churches to Census '80 (EACh '80).

It is instructive to note that some items of the EACh '80 program were generated by advances in computer technology not even available in 1971. Computer graphics were in the infancy in the early 1970's. CAPC used simple printer graphics—produceable on a computer printer in the 1970's. For 1980 multi-color plotter graphics—which can "draw" maps of data—were viewed as necessary to serve a rapidly more sophisticated constituency.

Access to national agencies

The second innovation for the Eighties was the request for the availability to use computer terminals located in denominational and agency offices to access CenSRCH's files and to print CAPC Profiles at their location.

Most CAPC members still find it preferable to receive their data in printed output form. To provide them with the most useful "packages" of data, CAPC representatives have developed a series of packaged profiles of census data aimed for use by churches. Churches are able to select from "pre-programmed" profiles that fit their particular needs. "Short" profiles include as few as 35 types of data, while "long" profiles include as many as 85. Supplementary profiles add additional data.

As an example of the kinds of data available, the STFI Long Profile includes data on:

— Urban and rural populations
— Male and female populations

- Size and make-up of households
- Marital status
- Race
- Age structure
- Chracteristics of housing

These data are available as whole numbers, percentages, or displayed in graphic form. They are available for a broad range of geographic entities, such as the nation, individual states, counties, townships, cities, blocks (units of approximately 5000 persons within larger communities), and smaller communities.

Determining the social context of ministry

More often than we would expect, we see only one part of the social context in which we attempt to minister. I recall the person from a given congregation who said they had no persons of minority status they could serve when their church was located within two blocks of the largest concentration of Native Americans in the Twin Cities. The most obvious use of census data is to describe the populations which determine the social context of one's ministry. Too often we act as if those we serve come into contact only with others we serve. One primary function, then for the use of census data is *to provide those of us in full-time ministry and those we serve with accurate descriptions of the social context in which we live and work.* Even something as simple as an accurate reading on the cost of housing may test our preconceptions and assumptions.

A second category of use of census data has been *to compare the demographics of those we serve to those who make up the total context in which they exist.* Parish pastors often are shocked to see the age, gender, or racial comparisons of parishioners to the larger community. It is almost a truism that different ministries appeal to only one segment of the population of interest. Therefore, it might be of extreme importance to explore the options available in the more diverse community.

Evaluating existing programs

A third major area of application of census data has been in the *evaluation of existing programs.* Especially in the area of *special ministries* to those of special age categories, gender, race or linguistic groups has the comparison to the larger communities' data been crucial in evaluating the existing programs. A further example was a church's stewardship committee surprise at the housing costs in their area. They had operated with a faculty set of assumptions about costs, and therefore had reached erroneous assumptions about the capacity to give financially. A final example in the evaluation of existing programming is made apparent by the "Church Growth Movement". Unless compared to the population patterns in the larger community, it is impossible to determine whether a location is "growing", even when losing numbers.

Program initiation and modification is an obvious fourth area in

which census data may assist the church in its mission. As existing programs are compared to the people of the service areas reported, "gaps" in programming may be uncovered. Those uncovered may suggest modification of existing programs. Further, demographic changes in the service area, such as changes in family structure, the "graying" of a community, or new pockets of unemployment may indicate the need for initiation of new programs of service. These new and modified programs quite possibly would not have been tried without the use of external data, such as that from the census.

Analyzing trends

Finally, *trend analysis through time* can be measured by comparing census data over at least three points in time. These are crucial, especially when transcient populations may not have the perspective of time, or overly stable populations have better "memories" than "eyesight" for current settings.

Several examples of use of CAPC members may help illustrate the utility of census data for ministry. Currently, the Lutheran Church in America is using census data to expand their service to Asian migrants. The Southern Baptist Convention has developed uses to explore ministry to the aged. Local mission personnel of the Lutheran Church-Missouri Synod have used the standard Profiles to locate ministries for Blacks and Hispanics in Houston; and to evaluate Urban Ministry in Chicago.

Perhaps even more satisfying are the responses of individual congregations that have found the use of profiles as the catalyst to evaluate, modify, and initiate programs within their service areas. Most of us are "myoptic" when we live and serve a given constituency. Census data serves as the "corrective lens" necessary to put our ministries in context and to more clearly perceive potential areas for new service.

Identifying success

Of equal importance is *affirmation of successful ministries.* The best example that comes to mind is that of the parish pastor in Charleston, S.C., who had felt himself and his congregation failing because of no growth in the last five years. Contrary to the overly simplistic view of "church growth" held by some, it was found that when his service area was analyzed, it had actually declined in population and was one of the most mobile areas in the area. Remaining stable in membership was more of an accomplishment than 100% increases in some newly developed areas.

Additionally, the Census provides the baseline against which trends are best measured. The National Council of Churches' *Churches and Church Membership in the United States* studies of 1971 and 1980 are only comprehensible because of census data. Currently, two of my colleagues are completing an atlas of patterns of religious and social trends

in the countries of Appalachia, using 1970 and 1980 census data and data from the NCC studies to map change in the region.

Military chaplains might or might not have direct application for census data. However, demographic information is available for military installations. Chaplains could profit by using such data, in much the same way that churches are using census data.

Bibliography

Kaplan, Charles P., Thomas L. Van Valey, and Associates. *Census '80: Continuing the Factfinder Tradition.* Washington: U.S. Bureau of the Census, 1980.

Quinn, Bernard, Herman Anderson, Martin Bradley, Paul Goetting, Peggy Shriver. *Churches and Church Membership in the United States.* Atlanta: Glenmary Research Center, 1982.

_____. *1980 Census of Population and Housing. User's Guide.* PHC80-R1, Washington: U.S. Bureau of the Census, 1982.

FAKE CAT:
The Computer as Medium and Message

Dennis C. Benson

A few years ago, a large religious publisher was promoting a new project of mine with great enthusiasm. The material was well received and my royalty checks indicated that we had a successful resource to offer. My editor flew to Pittsburgh with the news that the publishing house was very satisfied with the quality of the product and the critical acclaim it had received. "You can be assured of our long and happy relationship." Three weeks later the series was cancelled! The most recent computer analysis of the program had revealed that it was losing money! All of our figures indicated that this was an impossible conclusion. Yet, we found ourselves cast off. The company passed along all the business records from the project.

We soon made an amazing discovery. As we poured over the computer sheets we were mystified by a strange entry column: FAKE CAT. When we asked the executives at the company about the many entries under this category, they were unable to explain its meaning. After weeks of research, we discovered that, when the clerical staff couldn't understand a subscriber's account, they entered it under "fake cat." The translation of this heading was explained by the computer operator: "Fake Category." This misuse of information resulted in the loss of thousands of dollars which should have been included in our project's account. Our ministry through this resource was closed down, and it was too late to reopen it. Human misuse of the computer doomed our opportunity to help others.

Another quick scene: The arcade is overflowing with young peo-

Dennis C. Benson is a United Presbyterian minister and a member of the Pittsburgh Presbytery. He is author of fifteen books and co-editor of the *Recycle Newsletter.* Marilyn and Dennis conduct a cottage ministry which resources the religious community around the world. Over 300,000 of his audio cassettes are in use. Dennis has produced and written films, TV spots, syndicated radio and cable programming. He has received numerous broadcast awards and is currently writing a series of Bible commentaries which will wed the academic and experiential traditions to provide a wholistic resource for those who teach and preach the Bible.

ple. The times are tough in Detroit and quarters are not as easy to come by as they may have been a couple years ago. Yet, the flow into the video games is constant. The young and the unemployed pack the room in the mall and play the machines for hours. When interviewed about the experience, there are no reservations. They give enthusiastic endorsement to this form of computer application. The new video game generation seems wedded to this entertainment addiction. One suspects that those who discover the wondrous empathy between computer games and personal needs are being transformed in ways which will set them apart from those who have gone before. Some adult religious leaders in the community sense that the video arcades present a danger to the youth. Petitions are being circulated to close them. "This is a bad influence on the young."

An instrument of the devil?

Another snapshot from the computer world: A middle-aged clergyman dressed in dark blue is attentive but resistant at the computer orientation workshop. There is something about the way he holds his hands which indicates even to the casual obsever that he is withholding acceptance. The leader carefully led these church workers through a process of needs assessment. She simply and creatively introduced the computer world to them. They used Tinker Toys to construct individual model airplanes. This demonstrated that everyone has very individual needs and the computer must be tailored to fit carefully into each situation. There is general excitement, with the exception of the man in blue. At a break in the workshop, a church secretary asks him for his opinion. He just shakes his head, "I'm not for it. Look what happened when Herod counted the people. It's the same with this computer business. It is an instrument of the devil."

Are computers impersonal?

One more scene from the tapestry of faith and the world of the computer: The dinner with the experienced religious educator has been wonderful. There was the special blend of good food and fine company. This woman has given much to the life of the church. She has contributed creatively to the educational scene. Her use of drama and dance has been a special contribution to religious learning. I knew that she had used the computer in her doctoral work. It was with real anticipation that I shared my work and thoughts concerning the development of video games as religious resources. After I had finished a summary of my work, there was a long pause. Then my friend boldly gave her reaction: "I don't support such approaches with children in the church. I think that we must give our students personal relationships, and not use computers and other impersonal machines. The giving of ourselves is the one thing that makes the church special in this media-oriented world."

These fragments from the unfolding encounter between the com-

puter and the religious community suggest the challenge we face. How do we balance our fears of inappropriate change with our enthusiasm for this new age?

Marshall McLuhan, the late guru of media philosophy, reminded us that humans have always tended to misuse the newest medium of communication by applying the format and content of the previous popular medium. For example, radio first presented stage drama; television still provides radio with pictures; audio cassettes contain records and lectures (reel to reel content); and videotape focuses on movies. In the same way, those who are currently applying computer technology to religious settings tend to think of linear formats and applications (ledgers, typewriting, etc.). While there is immediate satisfaction in this usage, such housekeeping applications fail to challenge the vast potential of this exciting technology.

Overcoming opposition to the computer

The passion of the video players and the suspicion of the clergyman in blue also offer an important challenge to those who desire to use the computer with the religious community. It seems that what the young person loves, the adult criticizes. The average religious person places a high value on tradition. This tendency is a blessing and a curse. Those who love the fresh and new may have many scars from battles with those who have resisted innovative ideas.

As a pioneer in simulation games, experiential Bible study, process audio cassettes, participatory cable TV, and wholistic mass media progamming for the religious community, I have struggled with this concern for years. I have been surprised by what I have discovered about the religious community. It is true that there is resistance to the creative use of computers by the religious community in some places. There are always many folks in blue who see the mark of the beast in any new technological application. Yet, some of my most consistent supporters over the years have been conservatives. The people who are solidly rooted in their faith experience will be handmaidens for authentic change once they understand the bonding between past, present and future.

No put-down, first build-ups

We have not always been very helpful at making these connection points. We tend to present a new approach as the only way. In so doing, we may be suggesting to the church secretary and others touched by a computer that we consider their past work a waste. Or we reject the gentleman in blue with the implication that the computer is the only answer and stands in judgment of his ministry.

My educator friend presents an even more difficult challenge. She is comfortable with the computer applications drawn from past models. Instead of using file cards for research, she simply uses this wonderful

new machine. She is not able to envision the transformation of a new medium to the calling of her theological task.

Using computers with education and lay ministry

There are two promising areas in which the religious community can fruitfully explore the use of computer as a faithful extension of medium and message: Education and ministry of laity.

In the education realm we have been probing the use of video-gaming in the ministry of education and confirmation. It is obvious from the enormous acceptance of arcade and home-based computer play that there is a natural bonding between human needs and the new technology. Is it the immediacy of the feedback, the thrill of simulated adventure or the personal challenge of ability which fuels this popular passion? This kind of emotional and intellectual fusing doesn't often occur in the typical religious education setting.

Gaming as a teaching tool

The faith community must explore the application of computer gaming as a tool in its task. We have found that many young people have important skills in programming which can be tapped in the task of creating the software for your task. One pastor modeled this process in a very simple way. He gathered his junior high youth around the kitchen table in the church basement. He told them that they were to imagine that the table top was a video screen. Drawing upon the faith they professed, what video games could they create? The group came alive and soon had designed four stunning games! One of them was based on PILGRIM'S PROGRESS!

Ethical games could be created to help young people simulate situations which would help them delineate the ethical systems they are embracing. After the game is played students and teacher can discuss the issues which have arisen out of the game.

Another gaming area can be developed to aid in the learning of information about the faith. Under this format, facts about the Bible or the history of the church are presented in a series of questions. The student answers the query and is told by the computer whether or not he or she is correct. This program system of education may not be the most challenging format. However, it has great possibility.

Don't forget human interaction

Both of these forms of computer use will have little impact if they are not woven into the texture of the faith community's personal concern for each of its people. The computer applications in education will only be fresh and vital if we take the gift of human interaction as a serious legacy of God. The computer must always be seen as a handmaiden to the teacher who can be even more available to aid the student.

A second important area of computer aid in the life of the religious community is in the task of lifting up the talents of the people. The faith family has probably the greatest collection of talent on earth. Yet, in most settings, very little utilization of this talent is actualized. Most clergy and lay leadership haven't probed the creative heart of a congregation. The usual talent sheets developed by religious communities focus on previous experience or a limited view of the organization's needs. What about exploring the dreams and undeveloped areas of a person's life? The computer can enable us to lift up an amazingly complex analysis of the individuals within a congregation. Who attended a religious camp as a child and would now be a good candidate for leadership as an adult? Who is an enthusiastic photographer waiting to be tapped to teach young people this art? Who is ready to learn totally new skills by undertaking the development of a day care center for the church and community?

Called to be faithful in a computer age

These two models are helpful only if we work under certain theological and philosophical assumptions. If we view young people as empty vessels waiting to be filled by adult teachers, video games are just a gimmick. If we are unwilling to raise deep questions about personhood with our people, there will be no data for a talent bank. The person of faith called to explore the application of new technologies must move from a solid theological base. In a strange way, the computer age is merely calling us to be faithful to our traditional role of enabling the ministry of others. It is ironic that a machine would call us to be more spiritual and sensitive to our people. Yet, these two models assume that we will be more human in the presence of the computer than we have been in the past!

The young in our midst come to us with a special sensitivity to this computer-oriented future. When they hang out in those arcades or play home-video games, they are being prepared to aid you in your ministry. It is humbling to ask the help of others. Yet, there is enormous expertise awaiting every clergy person in the local religious community. It has been a mistake for us to deny the skills of others when we face a new technological opportunity. The thirteen- and fourteen-year-old young people who are helping me develop religious video games have much to give. When I receive their gifts, they seem more willing to accept the theological contribution I have to share with them.

There are some awing challenges facing us. Will the new technology widen the gap between the rich and the poor? The computer enthusiast promises cheaper computer technology and thereby a future which will equalize the rich and poor. We have heard such dreams in the past. Yet, the gap between those who make technology work for them and those who are victimized by it continues to grow. The computer gap

of the future may be between mindsets rather than pure economic differences. The young person playing games in your arcade is unwittingly preparing for the future. Meanwhile his or her unemployed father, waiting for a recall to the plant, may be hopelessly condemned to a dying past.

It is our humanity and our spirituality which are really aroused by the challenge of this new medium. The advent of the computer shifts every part of our lives in such a way that all the other parts interface differently. It is vital that we probe the theological foundation to our life and ministry as we face the future. Who we are and whose we are will determine the potential for the computer in our work.

I sit before our Vectors Graphics (3005) screen assembling these thoughts. Just a few inches from the keyboard I can see my Greek New Testament. The modern technology is nestled next to the critical text which gathers a message from an ancient world. This is a special pairing. Each medium is unique and vastly different from the other. What a challenge to have the legacy of these two gifts! As we move with the faith community, we are called to bring form and content together while being faithful to the God who substains us. Besides, all of this is a lot of fun!

Our Fascination with Electronic Technology Is Myopic—and Quintessentially American

Paul Connolly

In my public-school district we bought 52 microcomputers this year (24 of them for three elementary schools) at a cost of $35,000. Six years ago this district introduced its first high-school computer course; today it offers thirteen sections of three courses to 282 students, and contemplates requiring students to pass a half-credit computer course to earn a diploma.

We seem to share the faith in computers expressed by the president of the New York State School Boards Association when he said, in an issue of the association's journal devoted to "Computers and Public Education," that "minimal operational skill will become an absolute necessity if our students are to lead productive and useful lives."

A variety of institutions require—or are talking about requiring—"computer literacy" for a degree, and some are even talking about requiring students to own a personal computer. At my own Yeshiva College, it has been variously suggested that a computer course might satisfy the foreign-language requirement, the natural-science requirement, or a mathematics requirement. In the guidance center, I find myself suggesting that students fill out their programs with a computer course rather than one in philosophy, history, physics, or poetry. Half-wittingly, I, too, assume that computer literacy is essential to productive, useful living.

But this will not compute. In an age that lives by what Edward Hoagland calls the Silver Rule—"doing unto others just about what we think they would do to us if they had the opportunity"—schools require no evidence of the ethical or logical "literacy" needed to control, for example, nuclear weapons, genetic engineering, or limited global resources.

Paul Connolly has been professor of English at Yeshiva University, and is now Director, Institute for Writing and Thinking, The Brad College Center, Annandale-on-Hudson, New York.

Few college students are expected to know the difference between utilitarian and deontological ethics, or to appreciate the scientific distinction between "accurate" and "precise"—yet every adolescent is now expected to know a RAM from a cursor. Few are required to study Mill's methods of inductive inference or, for that matter, to know inductive from deductive reasoning.

Yet anyone who cannot tell floppy disks from Winchesters may soon be denied a diploma. Not many schools require that students read the "Great Books," yet we now assume that they will be conversant with *Byte, Interface Age,* and *Info World* magazines.

There is something myopic—and quintessentially American—about this fascination with electronic, glow-in-the-dark technology. Riddles, puzzles, colored cubes all whet our competitive urge to solve problems. But life's darker mysteries make us impatient and anxious. That life should ever be mysterious is an alarming thought; it underscores our littleness, our vulnerability. Puzzle-solving, on the other hand, is ever popular. Puzzles are solved by human ingenuity and are, therefore, a gratifying testimonial to our wits.

Addicted to the "quick fix"

Americans are addicted to the intellectual "quick fix," to the pragmatic act. Meanwhile, we fail to develop the patience, discipline, and responsibility needed to become learned and wise enough to deal with the ethical and political dilemmas that threaten civilization. Even in proclaiming computerism, our creed is not that we should all be well founded in the mathematics, or even in the mechanics, of computers, but only that we should all be adept at tinkering. It is as if we fear that one day we may be asked to check ourselves out of the supermarket; to speak fluent PASCAL, FORTRAN, or SNOBOL; or to answer to a computer for each nano-second we have lived.

I'm no twentieth-century Luddite, rioting against machinery because it threatens an older world of handicrafts. Is it Luddism to believe that extreme love of machinery is unhealthy? That a society with an adolescent lust for its own technology is decadent?

A generation ago, we mistakenly feared that robots would rob us of our dignity and purpose. Now, we talk as if data processing were at the core of every enlightened being. Will computers, then, provide the future foundation of our common culture, the means by which we experience one another? Not a shared history and we experience one another? Not a shared history and shared languages, nor an appreciation of arts and sciences that have evolved over millennia, but a multicabled web of monitors, megabytes, microprocessors, and daisy-wheel printers?

Computer science is a very popular major today, and the students who never leave the computer room are legendary. But that is not necessarily because this generation intuits the advent of a postindustrial society.

One appeal of computer science is that it is a practical major; it can lead to a profitable career in a "growth profession." And, given the tuition at colleges today, it is widely assumed that the price of an education should include preparation for a growth profession.

The study of computers fulfills that expectation in the opportunity it offers those who would design, operate, or maintain computers. But as education focuses more on the practical and profitable, it neglects the older expectation that it should examine the ends of living at least as closely as the means.

Computer science is also a field where child prodigies may still astound us. Fourteen-year-olds surpass the knowledge of their 28-year-old professors. And the young, always reluctant to have to mature into wisdom, find in computers a prospect of instant gratification, of being the best at a very early age.

Computers, we are told, will soon be ubiquitous, and those who are not knowledgeable about them will have a problem. It is the threat of computers, as much as the promise, that prompts curiosity. Parents who cannot compete with their children in videogames marvel at the brave new world they do not understand, and join the chorus that warns that those who do not rejoice in the new technology may be buried by it.

"Pride in status without pride in function"

A last, ignoble reason for the present interest in computers is simple snobbery, what Lionel Trilling defined as "pride in status without pride in function." We are eager to own the first anything on our block. Never mind that this complex machine may do more wondrous things than our small minds can imagine. We want one, the way we last wanted ten-speed bikes and pocket calculators, even if we rarely shifted the gears or calculated beyond basic arithmetic.

Dylan Thomas wrote that "the endless beginning of prodigies suffers open." He was describing birth, but computer technology today evokes comparable wonder.

I myself respect technology. I would miss hot and cold running water and air-conditioning and central heating as much as any person. But I do not consider those amenities to be the ends of living. I do not consider that plumbing will make me free or that man can live by microwave alone.

The business superintendent of my public-school district needs a computer, as does the registrar at my college. But that every man, woman, and child needs computer literacy to lead a productive, useful life remains to be demonstrated.

Postscript

Invited to write an article specifically addressed to military chaplains, Dr. Connolly responded with regrets, citing a full schedule. However,

portions of his letter bear repeating, and are printed below:

I am genuinely sorry not to be able to comment further on computerism. I certainly would not want to "savage ... the clergy," as you joked in your letter, and that letter raised my consciousness of the relief computers might offer you. So much debilitating detail might be assigned elsewhere, liberating the clergy for better work.

My principal fear arises when preoccupation with computer gadgetry seems itself to be "better work." Efficiency is not piety, though our Puritan American heritage favors that equation. If the machine frees us for more contemplative acts, what a blessing! But how easily, it seems to me, it distracts our attention from more important centers in our lives. While computers can so well assist us with clerical work, for example, I am particularly suspicious of "Biblical games and programmed learning for children" or of the virtue of "access to massive electronic files for sermon planning and other research tools." The personal testimony of a dedicated minister or teacher seems more important than the bits or bytes of knowledge transmitted through a screen or a sermon

You may know W. B. Yeats' poem, "A Prayer for Old Age," published when he was seventy:

God guard me from those thoughts men think
In the mind alone;
He who sings a lasting song
Thinks in a marrow bone.

Computers do not lead us, I suspect, to "marrow-bone" thinking. They bring us time to think, if we will let them do their work while we do ours. If we confuse our work with theirs, we are left with a mass of raw data, cross-referenced in indefinite ways. What solace there?

Our culture, I believe, is being savaged—not by computer centers, but by our increasing inability to fix a center to our own living. We are "distracted from distraction by distraction," as T. S. Eliot wrote forty years ago. When technology spares us from distractions, we are ennobled. But if the compound facts of life lead to our distraction, we are impoverished beyond belief.

Teleconferencing Applications for U. S. Army Chaplains

Gary L. Arnold

Communication technologies abound! The military is not only usually on the cutting edge of developing technology but in the case of communications has often served as "the mother of invention". Video satellites, surveillance equipment and satellite voice transmission are obvious cases in point as well as radar, ultrasonic sound and on and on. Will it then be an experience in the mundane to lead the military chaplain back into the world of the simple telephone?

Revisiting the telephone won't be a mundane experience for any chaplain who is aware that "with that little instrument so ubiquitous and universally accessible it ought to be good for something more than a point-to-point or occasional conference call". The good news is a relatively new piece of technology called a "Meet-me Bridge" has opened up fresh and productive, if not down-right exciting, uses for the old telephone there on your desk.

Simply stated, a "meet-me bridge" is a device which permits the nearly simultaneous interconnection of many telephone lines with the calls being originated by the caller and not a telephone operator. The military has, for many years, enjoyed a system similar to this—the "dedicated phone system". A number of military personnel can get on line at a given time and hold a conference. Naturally the "dedicated" system works only within a specific group of personnel and is not available for access by anyone outside that specific group.

Gary Arnold is Executive Partner in Church Development Center, Boulder, Colorado. The firm specializes in local church fund-raising and consulting.

Perhaps the most direct way to explain the advantages of the "meet-me bridge" is to remind the reader how a so-called "regular" or "conventional" Bell System conference call is staged. First, the chairman of a conference call will phone the conferencing operator in his city and arrange for a conference call at a certain date and time for probably not more than ten persons. Then he will notify his personnel to be by their phones at the appropriate time and await the conferencing operator's call.

Since it takes from one to three minutes to get each person on line, more than ten could mean the first person called has to wait up to half an hour for all the rest to be brought into the call. If for any reason one of the participants is detained and cannot get to his assigned phone to receive his call, he is simply not included in the conference call. If in the midst of the conference it is deemed wise to invite another one or two persons to sit in for a few minutes, that will have to wait for a subsequent conference call.

When all ten persons are finally on line the volume drain can be severe. In addition all ten will hear and experience the accumulated line noise (crackle and pop) of all ten lines! Moreover, some cities do not have a Bell System conferencing bridge and your conference call may have to originate from an inconvenient location, if indeed it can take place at all.

How the "meet-me bridge" works

The "meet-me bridge" conference call has an entirely different flavor! To arrange a meet-me bridge conference call, you simply dial the office of any one of several such bridges in the U.S. and set the time for your desired conference call. Then write or phone your invited participants, providing them your agenda and the meet-me bridge phone number. Each calls the number at the appointed time and the "meeting" begins under the leadership of the designated chairperson.

Since the bridge can't tell which phone you are using to place your call, you can phone in from any phone in the entire world! A pay phone will do. You need not ask anyone to remain in his/her office nor sit patiently on "hold" while all the other participants get "on line". If a member of the group has to be late, he/she may dial the bridge at any time and be admitted to the meeting!

Recently one United Methodist District Superintendent traveling across Wyoming forgot to call into a meeting with his bishop and the other district superintendents. Though he was fifteen minutes late he simply pulled into a motel, dialed in on the pay phone there and, since one or two others were long-winded on the roll call, no one would've ever known of his tardiness had he not 'fessed up at the next face-to-face meeting!

Dial-A-Consultant

In the midst of deep deliberation on the meet-me bridge conference call, it is mutually agreed the advice of someone else is deemed vital to the decision-making process. Either the bridge operator is asked to dial up that person or one of the participants who has a second line puts himself on hold and dials up the party inviting the resource person to dial the bridge number and offer his/her needed advice. The reality is *more expertise is instantly available to any group of persons meeting by meet-me bridge conference call than by any other method. Any person with a phone whom you wish to talk to can be in your meeting in minutes.*

A study course by teleconference

How about specific applications? The imaginative reader is already way ahead of the author, aren't you? But just in case some additional stimulation might help, how about a *Video Cassette/Teleconferenced Study Course?* Pick a subject. Pick a noted authority on that subject. Arrange for the video-taping of a series of 30-minute presentations by the authority. (Would your seminary tape your Professor of Systematic Theology addressing "The Christian Implications of War" in three 30-minute sessions?) Remember: It doesn't matter that he is in Chicago and your assignment is in Texas when you use a meet-me bridge.

Now arrange to have the tape duplicated to suit the number of chapels (6, 10, 20—not more if you want any real discussion) you wish to include. At an appointed time the videocassette is played in each chapel for the persons enrolled in the course. They are instructed to dial the bridge at a given hour. Only now there is an added benefit. Your seminary professor who created the tape is also to be on line to share in the discussion and answer questions! As long as each chapel uses a conferencing telephone, almost any number of persons can share the experience. See the end of this article for access to conferencing phones.

The options for study courses are only limited by the imagination of the person doing the planning! And, though it may seem obvious, TV is only one way to go. Audio tapes work very well when used in this manner and are far less expensive to produce and duplicate for circulation. In any event the use of a text or study paper is recommended.

Courses on Bible history, church history, prayer, the Gospels, the prophets, the torah, etc. already exist on audio tape from many denominational publishing houses and can be used in this way with minimal expense.

Use teleconferencing to build sense of oneness

In Colorado, Wyoming and Utah, United Methodist Churches are scattered over thousands of square miles. Coming together is difficult to say nothing of developing a sense of being connected as the Body of Christ. The situation is not dissimilar with many military chapels and chaplains.

The United Methodists successfully tried teleconferencing to build a sense of their connectional relationship.

Eight sub-district Interpretation Events were targeted in the three states. Pastors and selected laity from each church were invited to a central location (church) for an afternoon. The purpose was to acquaint them with the immense breadth of their denominational ministries and hopefully to inspire a greater amount of financial support for those ministries while uplifting their collegiality. A big assignment!

Part of the event included some presentations by familiar, area officials and viewing a film created by their Communications Committee. Then followed a teleconference. A conferencing telephone was secured from this writer and hand carried by one of the officials to each of the eight sites. By pre-arrangement it was determined that a regular house jack was available for the phone, or one was installed at small cost. Groups of from ten to eighty persons participated in each site, passing three press-to-talk microphones around the room as attendees asked questions of as many as sixteen persons on line at once. The effect was that of one, huge audio panel discussion. The audience was all in one spot. The panel was in sixteen different cities and one foreign country! The panel interacted with one another and with the gathered group in the church. The event closed with a covenanting service and communion.

Certainly denominational promotion is not the role of the military chaplain but encouraging a spirit of oneness in the Christian faith is serving an important need. The same ends can be accomplished with variations on this model. You will see unique applications for your needs.

Some varieties of teleconferenced interpretation events

Using a conferencing telephone you might wish to invite three to five important religious personalities to speak to a regular meeting of your congregation/family night, etc. There may be a special issue needing some massaging. Simply arrange with your resource persons to phone a meet-me bridge when you do, pass the microphones around the room after initial presentations by each resource person and you are well into an important give-and-take experience. If you have a very large group and a large room simply jack the conferencing phone into your public address system and everyone will hear quite well.

It should be noted that it is quite helpful to use with each speaker's voice, either a slide of him/her projected on a screen or a photo that is passed around the room. It helps persons to get a feel for the personality behind the voice if they can see the face.

Of course, thinking in terms of accommodating numbers, it is quite possible to enlist many other chapels to share this sort of event. Each will need a conferencing phone. The resource persons then are

speaking to all the groups at once and a pre-determined person at one site simply acts as M.C. for all sites and elicits questions in rotation.

Teleconferenced continuing education

In addition to various kinds of ministry interpretation experiences, study groups, special issue sharing, consulting, etc., many professional groups across the nation are using teleconferencing for continuing education. At least one university offers a series of courses by teleconference as part of a larger B.A. program. There is no reason preventing the military chaplaincy from using this mode for both casual discussion and intensive learning experiences.

A possible scenario that would "pull out all the stops": *"The 4M Model"*. Multi-faculty, Multi-location, Multi-modal, Multi-media! (Admittedly, that's a bit of a mouth-full!) The model serves to lift a valuable point not normally in view in usual designs for teaching/learning in the church. In brief: Three faculty (multi-faculty) might offer separate input on a given subject from three different parts of the world/nation (multi-location) using lecture, dialogue, panel discussion, workshop techniques (multi-modal), employing video cassettes, pre-printed copy, 35mm slides, overhead projection (multi-media) to perhaps twenty locations on line for an hour. If deemed wise, all of the presentations could be pre-recorded/detailed to be experienced locally at each location before dialing the bridge. Then the instructors deal with reactions from the various locations, update materials and enter the discussion more than they might deliver fresh lectures. Obviously many variations on this theme are possible. To wit: One teacher/many groups; one group/many teachers; many teachers/many groups, etc.

Personalized/customized learning experiences

Any group of persons may elect to take any course that interests them and take responsibility for creating their own learning track, selection of material and trainers! Perhaps six or eight chaplain's assistants need to sharpen secretarial/bookkeeping/office skills. In co-operation with the chaplains they decide on perhaps three sessions each dealing with a separate need. Three different teachers are selected (or one perhaps for continuity). Just the material they want covered is dealt with by the expert of choice in the time frame they choose with just the degree of intensity they wish. Decisions about length of sessions, materials, home work, fees for instructions, etc., are all decided according to the need. Always one person acts as moderator to relieve any confusion since eye contact is not possible.

Coming out of 26 years in the pastoral ministry, one form of personal learning via teleconferencing the writer has felt for sometime ought to be worth exploring is sermon planning and exchange for pastors/chaplains. A group of chaplains could covenant together to "meet"

by teleconference for perhaps two hours to: (1) hear the comments of a leading homiletics teacher; (2) listen to what a selected "top preacher" feels ought to be current thrusts from the pulpit; (3) hear two to three reviews of current books that to some (selected person) seem to be "must reading" and then each of the chaplains be prepared, in advance, to share both by mail and to comment verbally upon say four sermons each. Each person would simply give title, scripture and one sentence synopsis on paper and choose one on which to elaborate on line. Twelve chaplains would exchange 48 sermon seeds. Done three times annually enough fresh sermon ideas would be exchanged to enrich chapel services for a very long time!

Training church school teachers

In chapel congregations where there are church schools (Sunday Schools), it is not one bit easier to find qualified teachers than it is in civilian churches. Any person works more conscientiously and effectively with good training and creative resourcing.

Using a conferencing telephone in each location, a group of six to ten chapels can meet separately for perhaps three hours on a Sunday afternoon. Perhaps it is the children's department or perhaps the adult department teachers in each site. The new materials to be used for the upcoming quarter have been pre-distributed and read. Coffee and cookies are served. The bridge is dialed and the *authors* of the material are on line. Perhaps also the editor along with two to three experienced and creative teachers from other locations as well.

For an hour the groups listen to presentations and explanations. Then for an hour the phone is hung up and each group discusses insights, its own needs, plans, etc. The final hour or final 30 minutes is spent back "on line" with the same resource persons to deal with unanswered questions and to permit the groups to share and exchange ideas and plans. If the on-line experiences are tape-recorded, salient portions can later be duplicated and distributed in any way that is helpful. Obviously, any supplemental media such as videocassettes, audio tapes, films, printed materials and the like can be worked into the agenda.

General meetings of all descriptions

In saving this until last it permitted us to examine some of the less obvious means of uses for teleconferencing. Holding meetings by teleconference is a practice common to a growing number of industries and church groups around the nation. An agenda, stating time of meeting, meet-me bridge phone number, items for discussion, name, location and phone number of each participant is mailed to each site scheduled to participate in the "audio-meeting". On the day and at the time of the called meeting all simply dial the meet-me bridge and the chairman calls roll and proceeds with the meeting. Each participant places a check by the

names of those "present" to remind him of who is "on line" and, with the exception of visual contact, the meeting goes on as it normally would. In the absence of visual privilege the chairman needs to assume responsibility for being assertive enough to invite participation from any who seem to remain silent. Tardy or absent members may be dialed up by the bridge operator or the group secretary, brought on line and their presence noted by all at any point. Persons may, of course, leave the line and re-enter at any point as well.

When it is important to conserve funds, time or the use of certain personnel, the teleconferenced meeting is a welcome resolution to the problem. It needs to be said, however, that audio conferencing (the teleconferenced meeting) will not replace face-to-face meetings. It will only serve to lessen the number of face-to-face meetings necessary to carry on the support function of any group. There are certain rewards in getting together and certain kinds of exchanges in interpersonal influences in a meeting that cannot take place in a teleconferenced meeting. But for on-going maintenance/housekeeping business or quick decision-type meetings, the economy of teleconferencing is unsurpassed.

Costs

What you can expect to pay for the use of a meet-me bridge will vary from firm to firm. Twelve dollars seems to be about the lowest charge and twenty dollars about the top. That means a charge of $12 per line per hour or $20 per line per hour. If you have ten sites, phone the bridge and talk for one hour that totals $120 or $200.

In addition you will have long distance charges billed by Bell to your phone, or to your resource person's phone. However, alternative long distance services are useable such as MCI, or S.P.R.I.N.T., or any microwave or satellite system that is fed through a computer into the Bell System.

Often the bridging firm will agree to accept collect calls from one or more of your participants and re-bill your office at no extra charge. Each bridging service makes a slight charge ($2 to $5) if you ask them to notify your participants of an upcoming conference call. And any of them will tape-record your meeting/training event for a small fee (usually under $10). You are mailed the tape for distribution or for your records.

It is quite apparent the cost of even the most expensive one-hour teleconference on the meet-me bridge: $200 + long distance charges estimated at $80 = $280 is far less than the commercial airfare for even one person to fly round trip from Denver to New York. . . .to say nothing of airfares for ten persons plus costs of motel, meals, ground transportation and professional time lossed!

Audio, meet-me bridge teleconferencing is a genuine money saver!

Obtaining a conferencing telephone

The military chaplain must determine what regulations may apply, if any, to the securing of this piece of equipment. At present it is becoming increasingly common for executive offices to have a conferencing phone. A conferencing telephone is simply a telephone with a small speaker mounted in it that permits a group to listen and speak when a switch is flipped.

Summary

The author highly recommends that the military chaplain seriously consider the expanded use of his telephone as a means of decision making, training, group building, continuing education, information sharing and budget conservation.

The meet-me bridge technology has advanced the old-fashioned conference call into entirely new realms of possibilities for the religious leader who is alert to its potential applications. Probably no other single, universally available piece of communication equipment can be so quickly and simply upgraded to the level of fresh and inspiring usefulness in the life of the church as the common telephone!

Teaching by Telecourse:
An Operational Model

Dr. Raymond M. Rigdon

When the Air Force rushed its first reinforcement bomb group to the Pacific after Pearl Harbor, I was in that group. As a combat intelligence specialist, my first assignment was to teach flight crew members to identify friendly and enemy aircraft. We used the WEFT system. WEFT is an acronym for wings, engine, fuselage, and tail—the four things we insisted a crew member must observe carefully in making an aircraft identification.

We soon discovered problems in using this traditional training model. Although good in the peacetime setting in which it was developed, the WEFT system was inadequate in a combat situation. A tail gunner might have only a split second in which to decide if an approaching aircraft were friend or enemy. His instant response could mean the difference between life and death for his crew or for the crew of the approaching aircraft.

To meet the special requirements of our new situation, technologists developed a slide projector with the capability of flashing images of an aircraft on a screen in diminishing time sequences from a minute to one-fifth of a second. Through practice, many flight crew members learned to identify in a fraction of a second any friendly or enemy aircraft known to be in the Pacific area.

This experience taught me a lesson which has helped me many times during the thirty subsequent years which I have spent in adult education. Technology, when used as a tool and not as a toy, can contribute significantly to the teaching/learning process. As is true with any

Dr. Rigdon is the executive director of the Seminary External Education Division of the six theological seminaries of the Southern Baptist Convention.

other instructional components, however, it should be related to a worthy educational goal and be used in ways which encourage and assist in effective learning.

The Problem

I had occasion to remember that lesson two years ago. The chief academic officers of the six theological seminaries with which I am affiliated gave me a challenging assignment. Their institutions, as a consortium, were seeking viable ways to establish and conduct several off-campus study programs in strategic locations throughout the United States. Although these seminaries have highly qualified faculty members, there simply were not enough of them available to commute to teaching assignments in all locations in which external programs were needed. Moreover, flying professors to off-campus programs each Monday was expensive to the seminaries and physically exhausting to the professors, all of whom were carrying teaching loads on their respective campuses.

My assignment was to discover, or to devise, one or more course models which could be used in providing quality educational opportunities in off-campus locations without requiring professors to commute to each class session.

The first model we developed was a special type of telecourse. In our telecourse model, a professor from the campus of any one of our seminaries can teach students clustered in several widely-separated geographical locations simultaneously. The teacher and his students communicate through videotapes, a telephone network, carefully prepared printed materials, and special course assignments. In each off-campus location the teacher is assisted by a learning facilitator.

Clarification of Objective

Our first step was to clarify precisely what it was we wanted to happen in the lives of our students. We agreed that our objective was to stimulate persons to learn and to guide the learning process. Thus the teacher, we concluded, was to be a resource in learning rather than an oracle of knowledge to be transmitted. Shifting the focus from the teacher and how teachers teach to the learner and how learners learn produced amazing results.

Because of the nature of learning, we realized that there are no simple steps which are guaranteed to produce learning. Working on the assumption that much learning has taken place through the years in traditional classroom settings, we sought to isolate some of the basic components in familiar classroom situations. Three seemed especially prominent. They are (1) input from the professor, (2) interaction between the professor and learners, and (3) applications by the students of that which has been learned.

Although no one of these components can be restricted to a special segment of the class period, we assume that a direct emphasis on these three in logical sequence might be expected to stimulate and to guide most students in effective learning experiences.

Thus our instructional design provides for

- *input* from the professor through videotapes and assigned readings,
- *interaction* between the professor and the students in all learning groups simultaneously over a long-distance telephone network, and
- *exploration of viable applications* during small group discussions led by local facilitators and in a project which each student is to conduct during the semester.

Criteria for Selecting Course Themes

We realized at the outset that our telecourse model is not equally effective for use with all theological disciplines. Thus we established certain criteria for selecting telecourses which we would develop and offer. Two of the criteria we selected seem equally relevant should our telecourse model be used in the continuing education of military chaplains. The first of these criteria is that the course be *experiential in nature.* For several reasons, courses like church history which normally require a mastery of content do not lend themselves well to the telecourse model. The model can be used much more effectively with courses like pastoral counseling which focus on the development of competencies and involve a blending of new information with direct experience.

A second criterion is the *availability of content specialists* who possess, or have the potential of developing, the skills needed to teach by telecourse. Many persons who are highly effective teachers or conference leaders in traditional settings lack the qualifications essential to effective instruction via telecourse. The absence of visual contacts and the limitations of verbal interaction to that which takes place over long-distance telephone lines are obstacles which many otherwise excellent teachers simply cannot overcome. Successful instruction by telecourse requires a teacher who knows and loves students, is able to relate to them over a telephone network, and has the skills required to stimulate and guide learning experiences.

Instructional Design

Space limitations prevent a detailed description of all the components in the instructional design. We will limit this description, therefore, to elements which seem to have significant potential for use in the continuing education of military chaplains.

Each course is organized into thirteen 2½-hour class sessions. Nine of the sessions involve input by videotape, interaction between

and students by long-distance telephone, and small group discussions under the leadership of learning facilitators. In an additional two sessions, the professor has fifty-minute interactive sessions by long-distance telephone with the students, but no videotapes are used. Project reports, reviews and midterm and final examinations, and a special activity for course closure consume the remainder of the class time.

A typical session plan which involves both video input and telephone interaction is as follows:

1. **Preview**

After the usual group maintenance functions are completed, the facilitator leads his students in a brief discussion designed to heighten motivation to achieve the learning goals for the session. One method used is to encourage the students to share their personal feelings on the importance of the learning goals in the life of a minister. Sometimes the facilitator will lead the students to discuss their felt needs for help in the area to be dealt with during the class session. Occasionally, the facilitator may ask group members to share with one another some of the most interesting and helpful things they learned in their study of the required reading. Thus through a variety of approaches the facilitator seeks to prepare the students for the viewing of the videotape presentation by helping them develop mental attitudes of expectancy and inquiry.

Usually the facilitator encourages students to make notes on anything the professor says in his presentation which they would like for him to discuss further during the telephone interactive session.

The skill of the facilitator in preparing the students for both the video-presentation and the telephone interaction is a major factor in determining the success or failure of the entire learning session.

2. **Presentation**

The professor's major input during the class session is made during a thirty-minute presentation by videotape.

Since it is anticipated that these courses will be used many times over the next several years, we have felt it wise to work with a professional producer in the development of the videotapes.

We studiously avoid the "talking head" format in the development of the videotapes. We have no professor standing behind a podium lecturing to his students through a television camera and screen. Instead, the producer selects or establishes a setting which helps to cultivate a warm learning climate for the telecourse. The setting of the videotapes for the course on pastoral counseling, for example, is a simulated office of a pastoral counselor. The videotapes for the course on guiding public worship are being produced in selected locations in a church building.

Although the professor spends some time talking informally with his students through the videotapes, he also uses a variety of other methodologies to achieve the teaching/learning objectives for the session. Methods used in the video presentations in the course on "An Introduction to Pastoral Care," for example, include case studies,

dialogue between the professor and one or more other competent specialists, and simulated interviews with persons who have had, or are experiencing, personal problems in the area being studied.

Through the use of a character generator, major points which the professor makes are reinforced by copy appearing on the video screen.

Each videotape is designed to stimulate good telephone interaction between the professor and students. Thus the professor is encouraged, in developing his scripts, not to presume to give all the answers but instead to include several provocative questions which can stimulate discussion during the interactive session.

3. Preparation for Interaction

One of the most valuable lessons we learned in field testing our first telecourse was learned almost by accident. In listening to audio cassette tapes made in each of the individual learning groups, we discovered that some of the best questions and comments by the students were made in the brief period immediately after viewing the videotapes and before they got into the telephone dialogue with the professor. We realized that many of these comments and questions, although highly relevant to the course, likely would not be raised with the professor unless the students were given special encouragement to do so.

After consultation with our facilitators, we expanded this segment to allow the facilitator thirty minutes between video presentation and the telephone interactive period to lead students in sharing informally their reactions to the video presentation and to raise questions which they would like to have discussed by the professor during the interactive session.

To "prime" the dialogue during the interactive session by telephone, the facilitator designates students (or asks for volunteers) to raise with the professor specific questions which members of his group agree they would like for the professor to discuss. Thus when the interactive session over the telephone network begins, careful plans already have been made for the raising of several pertinent questions for discussion by the professor.

4. Interaction

Thirty minutes seems to be the optimum time for the telephone interactive session. For this time to be used productively, we have learned that it must be planned and monitored with extreme care.

The establishment of a technologically-effective telephone network is extremely crucial. Delayed or faulty connections can be highly destructive to the total class session. After exploring several options, we have concluded that it is well worthwhile to secure the services of a teleconferencing company to provide special telephone equipment and the services of an operator to assist in establishing telephone communications between the professor and the learning groups and to monitor the entire telephone interactive period.

The monitoring of the interactive session by a telephone operator

will relieve considerable pressure on the facilitator and teacher in the event of a bad telephone connection or any other type of mechanical disruption.

During the interactive session, the students are seated around a table with a table microphone for each three students. One of the ground rules for participation is that a student will identify himself and his group before he/she raises a question or makes a comment.

To cultivate a good climate for interaction, the professor initiates the telephone dialogue with a few informal and friendly comments. Sometimes he calls upon one or more students to tell him something about themselves and their work. (Before the course begins, biographical data on each student is made available to the professor to help him become acquainted with individual students.)

After informal introductory remarks, the professor may raise a judgment type question and solicit brief responses from each of the groups in an effort to further "warm up" the students for serious dialogue.

If any of the students disagree with something the professor says, they are encouraged to engage the professor in a discussion of the issue.

Since attention span during the interactive session is limited because of the absence of visual communications, the instructor is encouraged to limit each answer or other comment to a maximum of three minutes. If he feels the need for additional explanation or comment, he is encouraged either to pause for student response or even to ask a student what he thinks about what he is saying.

Although the question/answer method is the primary methodology used during the interactive sessions, the professor is encouraged to use other methods and, especially, to be prepared to lead the group in a discussion of some aspect of the lesson if questions from the group seem unproductive.

5. Rest Break

To give the students an opportunity to relax and prepare for the small group discussion, an intermission is given immediately following the telephone interactive period.

6. Small Group Discussion

During the final thirty minutes, the facilitator leads students in his group in a dialogue related to one or more issues dealt with during the class session. Usually there is an emphasis on ways in which that which was discussed earlier can be applied in the practice of Christian ministry. Many times, however, most of this final period is spent in helping students to work through some of the concepts which have been discussed earlier during the class session.

Although the professor provides concrete suggestions to the facilitator on what to do during these final small-group sessions, the facilitator exercises a certain amount of freedom in perceiving the needs

and readiness of the group and using the time in what he feels to be the most appropriate ways.

Family of Printed Materials

Attractive, educationally-sound printed materials are absolutely essential to the success of the telecourse. Even if they had no other purpose, they would be needed to help to counteract the mistaken idea many people have that the telecourse is simply a plan in which students learn by "looking at television."

Each of our telecourses includes three publications in addition to the textbook. These publications are a study guide, a book of readings, and a facilitator's manual.

1. Study Guide

The first section of the study guide provides a basic orientation to the telecourse itself. Included are complete information on what a telecourse is, the procedure to be followed, a schedule of individual sessions, and full information on course requirements.

For each session, there are suggested learning goals, aids to the student in assessing his prior knowledge in the area of the lesson, the study assignment, suggestions for the pro-active viewing of the presentation by videotape, a summary of concepts dealt with in the lesson, and aids in reinforcing learning which hopefully took place during the lesson.

Since most of the adult students have been out of school for several years, the study guide also contains valuable helps in sharpening learning skills. Also included (in the appendix of the guide) is an outline for use in previewing and reviewing each of the videotape presentations.

2. Book of Readings

Many of the students enrolled in the telecourse do not have access to a large theological library. To compensate for this, we provide for them "a library" in the form of a book of readings developed specifically for the course.

The professor, in developing the telecourse, recommends to us articles from journals and selections from books which he would like for the students to read. We extract all of this material from the original sources, secure reprint permissions, and publish it in the form of a book of readings to supplement the textbook.

3. Facilitator's Manual

Since the role of the facilitator and his relationships both to the teacher and students are somewhat unusual, the facilitator's manual is one of the most valuable members in the family of telecourse materials.

The first section of the manual contains an explanation of what a telecourse is, an introduction of the professor, a preview of the course content and requirements, a detailed explanation of the specific responsibilities of the facilitator, a careful description of the television and

telephone equipment and ways it is to be used, and a schedule of each individual class session.

The second section of the manual contains a detailed description of plans for each session and precisely what the facilitator is to do during that session. Since synchronizing activities in all study groups, at least through the telephone interactive period, is important, a time schedule is displayed prominently at the beginning of each session plan. Copies of the midterm and final examinations are included in the facilitator's manual, along with detailed information on how examinations are to be given and papers are to be submitted to the professor for grading. Substantial help also is given the facilitator on plans and requirements for the course project and ways in which the facilitator is to assist the teacher in evaluating each student's performance.

Orientation

We believe that a carefully planned and skillfully conducted orientation program is essential to the success of a telecourse. Our orientation program includes plans for the separate orientation of the teacher, facilitators, and students.

Our teachers thus far have been the same seminary professors who were content specialists on the teams which developed the courses. Thus their orientation began at least a year before they actually taught their first telecourse. Nevertheless, their final preparation includes several conferences on techniques of teaching by telecourse. Special attention is given to such things as (1) establishing rapport with students by telephone, (2) discovering and seeking to meet needs of individual students, (3) stimulating and guiding group discussion by telephone, and (4) anticipating and becoming prepared to deal with certain kinds of problems which might develop during the telecourse.

Although the facilitator's manual contains all of the basic information that the facilitator needs to fulfill his role with his group of students, we conduct several teleconferences with the facilitator prior to the first session. These teleconferences provide opportunities to review the primary responsibilities of the facilitator, as outlined in the manual, and to help the facilitator learn where in the manual he can find particular kinds of help as it is needed. One of the outstanding benefits gained from the orientation teleconferences is helping the facilitator become comfortable in the use of the teleconferencing equipment before he introduces it to his students. We also find it highly advantageous for the teacher and the facilitators to go over together in one of the teleconferences specific plans for the course and ways they are to work together in the teaching of the course.

Our major approach in the orientation of students is through a thirty-minute orientation tape during the first class session. A major purpose of this tape is to introduce the professor and to help the students

come to feel that they know him personally, even as a friend. Following his introduction, the professor talks with the students about what they can gain from the course and what he expects of them. He encourages them to be prepared, during the teleconference sessions which follow the viewing of the videotape, to raise any questions that they want to raise about the course requirements.

Evaluation

A team of three outside consultants is working with us in evaluating the telecourse model. Team members worked with us from near the beginning of the project to identify components to be evaluated. General objectives of the evaluation design are (1) to provide a plan whereby each course can be evaluated early enough for us to take mid-course corrective actions if indeed they are needed and (2) to gather data from the use of the earlier courses which can assist us in making refinements in the design itself during later courses which we plan to develop.

Summary of Learnings

Some of the most valuable lessons we have learned in our telecourse project thus far are the following:

1. Geographical distance is an obstacle which can be overcome in developing a warm and compatible climate for learning.

2. Two of the most important factors in bridging geographical distance between teacher and students are (a) a professor who has, in addition to knowledge of the subject matter and teaching skills, a genuine concern for students and a warm, outgoing personality, and (b) special telephone equipment which cuts out background and other extraneous noises when several lines are tied into the telephone network.

3. Students learn quickly to engage in serious and sustained dialogue over long-distance telephone network. One useful technique in helping them to bridge psychologically the geographical distance is to encourage them to "play like they are blind" and that they actually are in the same room with the teacher and all the other students.

4. A well-designed and carefully-constructed orientation program for teacher and facilitators is virtually essential to the success of a telecourse. Although some of that orientation can be provided in printed materials, teleconferences prior to the beginning of the course help the "teaching team" to become familiar with and comfortable in using the equipment, relieve apprehensions, and help to establish a good working relationship between teacher and facilitators.

5. Telephone interviews with the teacher, facilitators, and randomly-selected students after the third session can provide helpful information needed to make mid-course corrections, if needed. If a poor quality of audio-communication by telephone is reported, for example,

the problem might be diagnosed either as faulty equipment or an improper use of the equipment. In either event, the discovery of the problem early in the telecourse can lead to a significant improvement in communications for the remainder of the course.

6. Serious and sustained telephone interaction between professor and multiple groups requires careful structure and good guidelines. The structure needs to be developed in such a way as to stimulate creative expression without seeming to regiment it. One good guideline to encouraging creative interaction is to limit each single question, answer, or other comment to not more than three minutes.

7. Testimonies of students and teachers who have participated in successful telecourses are more influential in overcoming the prejudices which many "traditionalists" have for the use of technology in learning than is all of the logical reasoning and objective data the telecourse sponsor can give.

8. Most students who participate say that they learned as much in a telecourse as they do in the average course offered in a traditional classroom setting.

9. The telecourse is a highly-effective instructional design which can be used in providing quality learning opportunities simultaneously to small groups of persons scattered over a large geographical area.

Computer-Assisted Teleconferencing: Togetherness With a Difference

James S. Cary
Robert Parnes
Robert L. Fell
Chaplain (LTC) Richard N. Donovan

Computer-based teleconferencing is a recent innovation in communications. It was originally designed as a medium for people to meet electronically, to exchange ideas, to discuss points of view, to conduct planning, and to process the myriad of interpersonal communications necessary in our ever increasingly interdependent world. This is accomplished by utilizing a cost-effective, computer-assisted telecommunication system which is not limited by time of day or distance. This innovation in communication requires little or no training for the participants and essentially no familiarity with computer equipment.

Computer-based teleconferencing connects participants to a central computer via telephone lines. Each participant must have access to a computer terminal, but almost any terminal will work. The computer program organizes these exchanges by providing a structure and process by which specific topics are discussed and brought to closure.

James S. Cary recently left the U.S. Army after 16 years of service as an Aviator and Operations Researcher/Systems Analyst. Mr. Cary is presently the President and Chief Executive Officer of the AMER-EKA Corporation in Escondido, CA, a heavy equipment manufacturer, Mr. Cary is a member of the Army War College's Delta Force.

Robert Parnes received his Ph.D. in Educational Psychology from the University of Michigan. He is the designer of the Confer II computer conferencing system and president of Advertel Communications Systems, a company he created to advance the ideas of group communication and decision making through interactive computing.

Robert L. Fell is a doctoral candidate at the University of Louisville; his work there has focused on organizational systems. For the past four years he has worked as a research analyst for the University's Systems Science Institute and has participated in various phases of military research. Mr. Fell is a member of the Army War College's Delta Force.

Richard N. Donovan is the editor of the *Military Chaplains' Review*.

Several versions of computer-based teleconferencing, such as CONFER, EIES, FORUM, and PARTICIPATE are available commercially. The characteristics of each of these systems vary but, in general, have the following characteristics:

- *Messaging or "electronic mail" capability.* Any participant can communicate privately with another participant or with several participants simultaneously.

- *Conferencing or "electronic meeting" capability.* Groups of various sizes and composition meet electronically for discussions. These "discussions" are recorded as responses or reactions to materials provided to conferees. As alternative views are shared, new views emerge and consensus is shaped. In varying degrees, the commercial systems offer decision-support capabilities that can assist mathematically in reaching closure on a topic.

- *Bulletin or notes capability.* These are usually public messages to everyone involved in a teleconference (bulletins) or are reminders for the user (notes).

There are two types of computer-assisted teleconferencing. *Synchronous* teleconferencing has all conference members on the "net" at the same time. It functions much like a voice teleconference, except that members use keyboards to input messages and screens or printers to receive messages. *Asynchronous* teleconferencing has a computer that is always "on line." Individual members come on the "net" whenever they desire, soliticing or providing information. The computer will update the person with all messages received by the computer since the person's last update.

TRADOC's Task Force Delta established the Army's first computer-based conference in 1979. In 1980, the Army War College assumed responsibility for this function under "Delta Force." One hundred seventy-four Delta Force members have banded together to form Deltanet, an ongoing computer-based network that has contributed:

— Design features for the turret of the Infantry Fighting Vehicle.

— Ideas for the "fixing" of duties, responsibilities and authority among NCO's.

— Real-time input of information relevant to conferences.

— Brainstorming ideas to support the notion of "Power Down" leadership.

— Subnets within Deltanet to serve certain disciplines or interests (e.g., Organizational Effectiveness on Force Modernization.)

— The linking of units geographically separated from parent units.

Benefits of computer conferencing

There are a number of benefits of computer-based teleconferencing. (1) Most obviously, it frees the group from the constraints of space, time, and organization. Each user has control over when he or she will meet with the group. Other group members need not be simultaneously available, so scheduling problems are eliminated. Portable terminals make it possible for members to carry their "workplace" with them and to gain access to the group, regardless of travel. (2) The process is easy to learn but powerful. The computer records all input, making a complete, word-for-word transcript easily available for future reference. This also makes a permanent archive easy and inexpensive to maintain. (3) The system is safe for the transmission of sensitive (but not classified) information and for providing an isolated private environment in which a group can conduct their business. (4) Because input is made through a keyboard rather than orally, participants tend to use more care formulating their responses. The process encourages them to condense information and to be more thoughtful. The result is quality communication, with fewer misunderstandings than is usually the case with voice communications. (5) Since the computer can accept more than one response at a time, people are free to respond as the spirit moves them. It is always everyone's "turn." No person can dominate the discussion with a loud voice. (6) Computer-based teleconferencing can accommodate a large group of people with ample opportunity for participation by each person. Keyboard input and the computer's ability to accept input from more than one person at a time make possible intensive interaction among large groups. (7) The computer can be programmed to move participants toward consensus, facilitating decision-making. (8) Finally, the process can be very cost effective. For instance, a typical two-day trip for a face-to-face meeting could easily cost $800.00 per person for plane fare, accommodations and meals. That same $800.00 would provide for a half hour of daily interaction through the computer conference for over four months. (A half-hour-a-day is very heavy use.) And there's no time lost because of traveling!

Some weaknesses of computer conferencing

(1) Effective use of computer conferencing requires that each member of the group have easy access to a standard computer terminal with dial-out capability. While terminal access is certainly becoming more common, there is still a number of potential users who don't have immediate access to one. (2) Many people in high management positions have an aversion to using the keyboard associated with a terminal. (3) Low-cost terminals are not secure for the discussion of classified information. (4) While it requires only a few hours to set up a computer conference and to teach individuals the rudiments of using the systems, it takes more

time for everyone to get used to communicating through this new medium and to learn to take advantage of all it has to offer. (5) Finally, the technology is relatively new, and the system occasionally breaks down, resulting in delay. This can discourage novice users from participating.

The next training medium

Computer-based teleconferencing can enhance communications and reduce travel costs, not only for meetings and staff visits, but also for education and training. Thousands of soldiers attend short-term workshops each year. Travel costs and tuition for a one-week workshop easily run $750 per participant and can be much higher. According to DA, over 20,000 people were involved in PCS moves associated with professional development last year at an average cost of $7,000 per move (these figures do not include officer basic courses or AIT). The approximate cost per student for the Armor Officers Advanced Course is approximately $35,000 per student. Compare that to $26.00 per hour for the typical teleconferencing student, including the cost of equipment.

Much of the current resident training in the Army could be taught or supplemented by computer-assisted teleconferencing. The quality of Army training could be enhanced and costs reduced by a multi-media approach using printed materials, audio tapes, the Bessler QC, video tapes, telephone conference calls and periodic seminars. This approach would not eliminate resident training, but would reduce the requirements for resident training by providing a richer mix of training at unit locations. Soldiers could be exposed to professional quality, interactive training in the units on a very frequent basis. Some of the media, such as the Bessler QC provide excellent training in routine skills. Teleconferencing adds opportunity for interaction with people, allowing development of a much higher level of skills. Resident training at service schools and short-term workshops could he reserved for the highest level of skills and training which requires equipment or instruction that might not be easily provided in the unit setting.

Computer-assisted teleconferencing and the chaplaincy

There are a number of situations in which computer-assisted teleconferencing (CAT) would be beneficial to chaplains and chapel activities specialists. The following are common settings for chaplain and CAS training that might lend themselves to computer-assisted teleconferencing:

1. 71M (chapel activities specialist) training begins at the U.S. Army Chaplain Center and School (USACHCS), and continues at the local installation or unit. USACHCS could concentrate on basic entry-level skills in their resident training, and could develop programs that

would utilize both voice and computer-assisted teleconferencing for higher skills. It might also be possible to run CAT refresher courses within major commands (MACOM's) as preparation for skill qualification tests (SQT's).

2. The Chaplain Officer Basic Course (C20) utilizes a "Pre-Entry Text," from which chaplains learn basic military information prior to reporting for the resident basic course at USACHCS. This is useful, because some chaplains literally have never donned a uniform before reporting to USACHCS for training, and they are expected to report for training in proper uniform. Pre-entry chaplains surely have many questions, and might have difficulty finding answers. Periodic voice teleconferencing or ongoing CAT would provide valuable interface. CAT has the advantage of being always accessible. It also provides a complete record of questions asked by pre-entry chaplains, facilitating meaningful revision of the "Pre-entry Text."

3. Reserve Component chaplains are often hampered in their ongoing training at unit level, because they are so geographically dispersed. Access to supervisory chaplains is limited by geography, and access to peer support groups made up of chaplains is even more limited. The difference between the Active Components and the Reserve Components is best illustrated by Phase III (the Installation Phase) of the Chaplain Basic Course. New chaplains going on active duty are assigned to posts that are large enough to accommodate several new chaplains at once. Typically, three or four new chaplains will be assigned to the same post, and will work for one year under the supervision and training of an experienced chaplain with a 7E ASI. They will meet weekly for training, and will have opportunity to share their experiences, both good and bad. This alleviates feelings of inadequacy, as each chaplain discovers that other chaplains also have problems. It also provides opportunity to share answers and solutions. The 7E Chaplain, because of his experience, is often able to identify potential trouble spots or helpful resources. This has been a valuable program.

By contrast, the Reserve Components have no "Phase III" of the Basic Course. Their geographic dispersion makes it impossible for them to get together in peer support on any regular basis at an acceptable cost. However, teleconferencing, either voice or computer-assisted, changes the costs so dramatically that such support groups are now possible. Perhaps the best program would combine a one-hour voice teleconferencing call once a month with ongoing access to a computer-assisted teleconference.

4. The Chaplain Reserve Component General Staff Course (CRCGSC) begins with a series of correspondence subcourses which were developed at Command and General Staff College at Fort Leavenworth. While they provide useful information, the correspondence course format with multiple choice questions is d-e-a-d-l-y dull. Perhaps

a sophisticated computer program could be devised which would allow the student to be tested by an interactive computer (connected to the student by telephone lines) which would continually steer him toward important considerations and correct answers. Parts of the course could involve a network of students, all hooked to the computer by telephone lines, working together to solve a complex problem.

Phase II, Segment A of CRCGSC is a two-week resident segment which features highly placed guest lecturers. Some of the presentations which do not involve classified information could be made in a variety of telecommunicative styles: Video-tapes augmented by voice telecommunications, a slide set augmented by voice telecommunications, closed-circuit video augmented by voice telecommunications, or CAT.

5. At LOGEX, conducted each summer at Fort Pickett, Virginia, chaplains participate in large numbers in a mobilization exercise. The three CONUS Armies also develop mobilization exercises. These are important, because the Reserve Component forces' most critical mission is to respond to a mobilization with well trained people. Computer-assisted teleconferencing has great potential to make exercises of this type more widely available, faster paced, and more flexible. Chaplains would not have to gather at a central location, such as Fort Pickett, to participate. They would only have to have access to a phone and computer terminal at their unit—or even at their home. Hundreds of problems could be entered into the computer to be presented to each chaplain as rapidly or slowly as he was prepared to receive them. Incorrect or incomplete responses would result, not in failure, but in prompting by the computer.

Chaplains could be grouped together in make-shift "divisions" in which chaplains of appropriate grades would serve as Division Chaplain, Brigade Chaplains, and Battalion or Assistant Brigade Chaplains. The computer could generate problems which would require different responses from each successive level—in effect requiring the more senior chaplains perform supervision via CAT over the younger chaplains. The computer could also introduce new "turns of events" or nuances periodically in the middle of more complex scenarios, just to keep people on their toes. Prior to the beginning of such a teleconferencing exercise, each chaplain could be furnished with a set of regulations, field manuals and other necessary publications that would provide guidance for the exercise. Each incorrect response on the part of the student could result in a citation by the computer of "chapter and verse," pointing the student to the reference and page number that would help him to correct his response.

Exercises conducted by teleconference would be so inexpensive, compared with travel, that they could be conducted several times a year, reinforcing learning. Developmental costs would also be reasonable. Initially, they might be high, but a computer program developed by one headquarters could be shared with other headquarters, reducing cost-per-utilization.

6. There are many workshops worldwide for chaplain training. They involve TDY costs in many instances. Computer-assisted teleconferencing could reduce—not eliminate—the requirement for these. Not only would this save TDY funds, but it would also reduce the amount of time that chaplains must spend away from their units.

Computer-assisted teleconferencing is not a panacea; it has many limitations. However, for some tasks, it can be a powerful tool. Military chaplains owe it to themselves to learn how it can serve them.

SOFTWARE REVIEW

The Disk-Based Bible

Heaven knows, it couldn't have been easy cramming the entire Bible— ,
both Old and New Testaments—onto just eight double-sided floppy
disks. With over 4½ million characters and 36 million bits of informa-
tion, The Word Processor (get it? *The Word* Processor), a $160 program
that works as a Bible-study tool, is certainly a formidable example of
microcomputer software engineering.

The Bible is the most influential, universally published, and
widely read book in history. No other work has ever commanded as
much scrutiny over the centuries nor been the subject of so many other
books. Its students and believers number in the millions. Thus consider-
ing its widespread popularity, it's no wonder that the Bible has become
the first substantial work of literature to be transferred into microcom-
puter-readable form. Now Bible readers who own an Apple, Radio
Shack, or IBM microcomputer can analyze, dissect, and manipulate the
Bible in ways never before possible.

Until now, Bible scholars and other interested researchers have
had to work from concordances (massive alphabetical listings of the
Bible's principal words and phrases along with their immediate con-
texts). But concordances have a serious drawback. Despite their
voluminous size, these works contain only a selected amount of material
and a limited number of references. The Word Processor, on the other
hand, is limitless; it lets you connect any single phrase or string of
characters within the Bible to all its precise reference points.

Why the King James Version?

Of all the versions of the Bible currently available, developers of
The Word Processor chose the King James text as a basis for their
system. This decision has both good and bad points. While the King
James version is used in most Protestant churches, it is far from a
universally accepted document. For instance, Catholics who use the

package will find that The Word Processor lacks such material as the Book of Tobit and the Book of Judith. Jewish scholars interested in the system's Old Testament data will have to cope with many differences from their Aramaic version. Still, the King James edition is probably the version most acceptable to most users, even though its seventeenth-century text can be a bit wearing.

The Word Is User-Friendly

Because The Word Processor will probably find its widest audience among those not fully acquainted with the operation of personal computers, it's nice to discover that the package is very user-friendly. A thorough menu lets you select the desired option with ease and efficiency. Its designers have even included a Help button to activate on-screen documentation that explains all of the program's functions. The system is also fully menu-driven so that you can display a list of all available options at any time.

The package's printed documentation is first-rate. Written in a conversational yet informative style, it does a fine job of detailing the system's capabilities and uses. While not packaged in the type of fancy vinyl binder in vogue with software publishers today, the compact 35-page booklet is easy to handle and a pleasure to read. The information is logically arranged, and a complete index helps speed you to the topic you're searching for.

Once the program is up and running, you can choose from a wide selection of methods to manipulate Bible text. One handy feature is the program's ability to search through Bible text for specific words, suffixes, or prefixes. With other options you can scroll leisurely through the Bible as if you were reading a traditional paperbound book and print out a selected amount of material. Most users, however, will find The Word Processor's ability to create a personalized reference index its most valuable feature.

How to Use the Index

The Word Processor's indexing feature makes this system far superior to any printed concordance. For example, let's say you want to create an index of Biblical references to the city of Philadelphia (the one that was in Asia Minor, not where the Phillies play). To find any references to this topic, you merely insert the disk containing the section of the Bible you want to scan, and the computer automatically searches through the disk and displays a message detailing the number of references to Philadelphia and their precise locations in the text. If you like, you can modify the index to include additional information not directly related to the main topic or delete unwanted references.

You can also use the indexing feature to explore all sorts of stand-

ard or offbeat topics. Does the Bible have anything to say about unicorns? Just input the word and begin your search. You'll soon discover several references to this creature, most notably in the Book of Job. Or when and where is Moses mentioned in the Bible? Get ready for a long listing.

Carrying things a step farther, you can merge two or more indexes to form a comprehensive listing of Biblical references on a variety of associated topics. Say you have two files, one on Judgment and another on the Second Coming. To merge the two, you answer prompts from the program. You merely name the two indexes—Judgment and Second Coming—and invent a new name for the merged file. Then after you answer another few prompts, the system automatically merges the subjects together and supplies you with a complete list of references concerning both Judgment and the Second Coming.

As you might imagine, you'll need two disk drives to take full advantage of these advanced indexing capabilities. While the package can theoretically run with only a single disk drive, a task like merging indexes, for example, requires the likes of a multi-armed Buddha (to invoke another religion) to insert and remove all of the required disks. Even to scroll text you must boot the main program and then swap data disks. This can become so tedious and annoying that you'll quickly understand why two disk drives are strongly recommended.

Some Minor Tribulations

While The Word Processor is indeed an effective program, the scholar or layman interested in using the system as a serious Bible study tool should be aware of some critical drawbacks. Foremost among these problems is that text is displayed and printed in uppercase letters only, with none of the traditional pronunciation markings. And while your computer may be equipped for color, don't bother looking for the words of Jesus printed in red. The Word Processor doesn't have that capability either.

Experienced Bible students will probably be able to live with this simplified presentation. But users who are less knowledgeable about the Bible may run into trouble with pronunciation, especially if they plan to read aloud to a group directly from a printout.

Why were these features omitted? For space considerations, say developers of The Word Processor. Their goal was to condense the entire text onto as few disks as possible to hold disk swapping to a minimum. And just to add lowercase letters would more than double the number of disks required.

Even so, with the complete text spread across only eight doublesided disks, you can't have the entire Bible online at any given

moment. And to scan or index the entire Bible, you must spend a lot of time swapping disks, even if you own a dual-drive system.

Reflections

In virtually every aspect, The Word Processor is a remarkable program. It does have some drawbacks, but considering the amount of material that had to be stored, it's incredible just how complete the package really is. As personal computer technology continues to develop, most of the problems that currently plague this system will probably be rectified. But even as the program currently exists, The Word Processor stands as a monument that programmers planning to condense other massive literary works into disk form will want to emulate.

Yea, though I walk through the valley of silicon. . .

—— John Edwards

At a Glance

Name
The Word Processor

Use
Bible study tool

Manufacturer
Bible Research Systems
8804 Wildridge Dr.
Austin, TX 78759
(512) 346-2181

Price
$160

Format
Eight 5¼ inch disks

Computers
Apple II with 48K bytes of random access memory, IBM Personal Computer, TRS 80 Model III; single disk drive required (dual disk drives recommended)

Documentation
35 page booklet

Audience
Clergy, Bible scholars, and interested laypersons

BOOK REVIEWS

Dealing With Conflict

E. Leonard Gillingham

Abingdon, 1982

E. Leonard Gillingham is pastor of First United Methodist Church in Albuquerque, New Mexico. Gillingham's thirty years as a minister have given him considerable experience in counseling. He holds degrees from McMurry College, Perkins School of Theology, and Southwestern State College, and has held numerous church offices at the national and local levels.

I picked this book off the rack because it looked as though it were another of those "How To" books on handling conflict and I like to keep up with the literature. Instead, I found it to be a series of sermon-like presentations preached for the 1982 United Methodist Series of the Protestant Hour on radio.

Because these presentations were prepared for a general radio audience, I find them to be generally unfocused. They do not serve well as guidance in dealing with conflict in specific social settings, such as a family, congregation, or community. Although they employ numerous biblical and personal references, they are not clearly-enough outlined, either as a whole or within the chapters, to be useful spiritual guides. In addition, except for the epilogue, little of Pastor Gillingham's own experience with conflict is revealed. Thus, the book's value is limited for insight into the personal impact of conflict situations.

There are a host of more valuable books available which provide specific guidance in handling conflict situations or insight on the impact of conflict on chaplains themselves and their immediate relationships. Call me and I'll suggest a few. I have read the book twice and, except for the epilogue, cannot recommend that you read it at all.

——**Chaplain (COL) Richard R. Tupy, Jr.**

Executive Health

Philip Goldberg

McGraw Hill, 1978

Philip Goldberg graduated from City College of New York in the area of industrial psychology. Since graduation he has developed and managed a program for the mentally retarded. This lead him into the whole phenomenon of the relationship between stress and health. He is also author of *Natural Sleep.*

All you ever wanted to know about the physical and mental aspects of successful stress management. An excellent and quite comprehensive book for achieving good mental and physical fitness. In the words of the author, "An estimated 80% of all modern disease has its origins in what has come to be called stress." The author promotes the theme that the best way to manage stress is through attention to physical and mental health. This book helps you define stress, provides guidance on recognizing its effects and recommends programs for treatment and prevention.

For those already into taking care of mind and body, this book provides information to fine tune your program. For those aware that stress is having a personal impact and wanting to do something about it, this book is a valuable resource. It contains descriptions of the most common stressors; self-evaluations to assist you in looking at your habits, priorities and life style; and excellent guidance on developing a program tailored to meet your own individual needs, telling you what to do and when to do it.

Quite impressive, but possibly of lesser value to those under the military health care system, are the numerous listings of organizations, clinics and agencies devoted to working with various health problems. If nothing else, it emphasizes the interest, energy and money being devoted to the whole area of mental and physical fitness.

I would stop short of calling this a book on holistic health. Although excellent in dealing with the mental and physical, it does not provide the same in-depth look at the spiritual. With the growing holistic emphasis on man being made up of body, mind and spirit, this book only gets you two thirds of the way there. The spiritual you need to get someplace else.

In the final analysis, this book gives a clear message that the ultimate responsibility for your health is you, and you are better equipped than anyone else to look after yourself. This book gives you guidance on how to do it.

——**Chaplain (Colonel) Marion D. Pember**

Sir, We World Like To See Jesus

Walter J. Burghardt, S.J.

Paulist Press
220 pages, $12.95

When I was a student of English literature at Edinburgh University, a candid friend remarked one day when we were discussing a certain poem: "David, you're not a critic; you're an enthusiast." While protesting the imputation, I am still aware that there are some books that delight me enough to make any truly critical comment almost impossible.

This is such a book. Since we are a long way from the days when preachers by the dozen were impelled to publish their sermons (and, presumably, someone impelled to read them), anything I can do to persuade a reluctant public to buy this one is simple gratitude. Preachers should not be the only potential market. Any thinking person, no matter how distant from the faith, would enjoy the clarity, wit and literary charm to be found here, and Christian lay people will find windows opening at decisive points in the Christian Year and fresh insights on familiar texts.

For preachers of any denomination this is what reviewers who lack Walter J. Burghardt's way with words call a "gold mine." We are shown how to get to the point and stay there; how to tackle textual or theological problems honestly without leaving hearers floundering; how to avoid homiletic cliches; how to balance deft reasoning with flights of imagination; how to center on Christ without saccharine or subterfuge—and, hardest of all—how to abstain from the dull and the obvious.

Such short and effective sermons are the product not only of depth of learning and experience (which are not in every preacher's grasp) but of the hard work of one who takes the homiletic task seriously as the sacrament of the Word. The prologue on "preaching as imagining" is superb—one is tempted to say "worth the price of the whole book." Father Burghardt has traveled a path similar to mine, being trained in the objective, here-is-the-truth school that avoided personal confessions, illustrative anecdotes, poetic fancy and imaginative excursions. Jesuit and Scottish Presbyterian traditions had this in common (hence on occasion matching wits in theological disputes), and both may have suffered from a certain stifling of the emotions. God forbid that such a tradition should be exchanged for the anecdotal, off-the-cuff religious therapy that invaded the American Protestant pulpit or the frenzied appeals of some televangelists, but what Father Burghardt has to say about the release of the imagination in vision, ritual, story symbol and the fine arts is stimulating and timely for all of us who are willing to think new thoughts and

feel new feelings, in our search for communication with a new generation.

Only in the sermons of Frederic Buechner have I found such fresh language, such poetic vision, such unexpected twists and such a deeply personal witness to Christ.

Both these preachers may leave others despairing and coveting their gifts. But they would be the first to disclaim any homiletic elitism. They do what we all can do—let God work with what we've got. No preacher could read *Sir, We Would Like to See Jesus* without being stirred to try again—with joy and enthusiasm. In particular, clergy and laity who are struggling with the lectionary, trying to weave Old Testament, Epistle and Gospel into a unified theme will be fascinated to see how it can be done without exegetical hiccups.

If I must restrain my enthusiasm and be more of a critic, the most I can do is to express some surprise at Father Burghardt's fondness for the "three-pointer"—a form which has strangled many a promising sermon. But what can one say when he chuckles at himself for his addiction. That trinity can still be holy—in Father Burghardt's hands.

So I can only end with the complaint that is the ultimate accolade for any sermon: "I wish it had been longer."

——**David H.C. Read**

Theology and Narrative: A Critical Introduction

Michael Goldberg

Abingdon, Nashville, TN, 1980

Michael Goldberg is a rabbi and Jewish theologian residing in Dallas, Texas. He holds a doctorate in philosophy of religion and systematic theology from Graduate Theological Union in Berkeley. Dr. Goldberg also holds degrees from Jewish Theological Seminary in New York, University of Judaism in Los Angeles, and Yale.

Feeling guilty because my reading has been limited to sermon preparation, devotion and recreation, I hesitantly selected an "academic" book when Billy Libby suggested that I review a book. At the end of Chapter 2, I was convinced that I had dipped into a boring doctoral dissertation that was far beyond my comprehension. Thank God that I am not a quitter, for by the end of Chapter 3, Michael Goldberg had captivated me and I could not put this fine book down.

Admittedly, if I had previously read some of the narrative theologians and had had a contemporary seminarian's grasp of narrative

theology, I would have learned much more from this landmark critical study. Nevertheless, I not only received a superb introduction to the whole arena of narrative theology, I was convinced that theology cannot be separated from narrative and that story telling, not only the Biblical story, but my story and the story of my hearers is vital in sharing the convictions of faith.

Most helpful was the clear critique why, in some cases, the telling of story fails and in other cases succeeds so effectively in communicating our faith story. As I absorbed the rationale for narrative theology, I vowed to be much more critical in the way I tell the Biblical story and my own story in order not to miss the opportunities God gives me to share my faith.

Throughout my study I was overwhelmed by the reality that the story I tell with my words may be far less valuable than the story I tell by the way I live my life. Goldberg convinced me, though not his intent I am sure, that every person should be continually writing an autobiography, not for publication, but to facilitate sharing life with neighbor. I am convinced that such a discipline would enable each of us to live out our lives more in keeping with God's will and in a way that would be a far richer blessing to all those whom our lives touch each day.

——**Chaplain (COL) Charles Gibbs**

Spirituality for Ministry

Urban T. Holmes III

Harper & Row, Publishers, San Francisco, CA 1982
200 pages, $12.95 (Hardcover)

Urban Tigner Holmes III died on August 6, 1981. He was an Episcopal priest, educator, and theologian. From 1973 until his death he was Dean of the School of Theology of the University of the South, Sewanee, Tennessee. An authority regarding the relationship of theology and culture, in pastoral, fundamental, and spiritual theology, and in theological education, he was author, co-author, or co-editor of some fifteen previous books; these included *The Future Shape of Ministry, A History of Christian Spirituality,* and *The Priest in Community.*

Urban Holmes wrote this book as the result of a sabbatical leave not long before his death. He used the leave to tape interviews with clergy from Methodist, Catholic, Lutheran (LCA), Presbyterian, and Episcopal churches, women and men considered "spiritually mature" by their judicatory heads. Participants were asked to complete a series of four psychological inventories as a preliminary basis for the research, but these were not the sole or even primary basis. The problems and limitations involved in the methodology are made clear in the Introduction.

The ordered study that emerges from the listening and learning

process involves serious reflection on "the tradition of Christian spirituality" and drawing on "foundational theology . . . in order to ground contemporary clerical spirituality in a reasonable understanding of our world." It includes percipient, scholarly examination of the meaning of spirituality and the spiritual act of prayer as these apply to the clergy. The important facets of clerical attitudes and actions are similarly probed, reflecting modern insights from theology, psychology, and studies in human sexuality. The context of clerical life, that is, worship, prayer, and "parish piety," is also fully considered. The final chapter presents some congruous thoughts and suggestions related to "the necessity of spiritual companionship as a principle."

Holmes directly relates "the spirituality of the clergy [to] the ordained person's vocation to be an efficient cause of the deepened awareness of God in the life of the people of God." That personal reiteration of an ancient truth, which permeates this final book, is doubtless part of the reason Loren B. Meade, in his Foreword, refers to Urban Holmes as "clearly one of the most influential Episcopal thinkers, teachers, and theologians of the twentieth century . . . ."

————William E. Paul, Jr.

God Incarnate: Story and Belief

A.E. Harvey, Editor

Anthony Harvey is University Lecturer in Theology and Fellow of Wolfson College, Oxford. The other contributors to this volume are also faculty members at Oxford: James Barr, Peter Hinchcliff, John MacQuarrie, Rachel Trickett, and Geza Vermes. Peter Baelz, a former faculty member, is now Dean of Durham.

This is a collection of essays that grew out of a series of discussion meetings at Oxford following publication of *The Myth of God Incarnate* in 1977. The participants in the discussions—named above—realized that their shared thinking moved toward more positive convictions than those of *The Myth* writers. They also found that as the discussions progressed, there was an emergent meeting of minds revealed in the papers presented to each other; not complete agreement, but an approach of sufficient commonality to make publication of the colloquies desirable as a "contribution to the contemporary debate on the person and nature of Jesus Christ."

The book comprises eight essays and a sermon that do, indeed, make such a contribution. One unusual essay is by Geza Vermes, a Jewish scholar whose interests include critical study of the gospels and

historical Christology. He presents aspects of Jesus perceivable only to an ecclesiastical outsider—albeit a knowledgeable one—under the intriguing title "The Gospels Without Christology." The sermon by Peter Baelz, preached at Durham Cathedral on Christmas Day, 1980, is also unusual in the context of this collection; it offers an illuminating and instructive example of how, as the editor puts it, "one who has ventured on the kind of thinking which is explored in this book may still with integrity preach the fundamental truths of the Christian faith."

The essays and sermon offer evocative theological insights that serve to stretch the mind and probe the faith of the believing Christian—experiences many deem essential to Christian spiritual health.

——William E. Paul, Jr.

Real Presence: Worship, Sacraments, and Commitment

Regis A. Duffy

Harper & Row, Publishers, San Francisco, CA 1982
220 pages, $8.95 (Paperback)

Regis A. Duffy, O.F.M., is an authority on sacramental theology and pastoral ministry; an associate professor at the Washington, D.C., Theological Union; a member of the board of directors of the Catholic Theological Society of America; involved in re-education and pastoral workshops abroad; and in great demand as a lecturer and preacher throughout the United States and Canada.

There are some—Daniel Yankelovich and others—who see modern American culture at an embryonic stage of evolvement toward what is called a new social ethic of commitment. The key ingredient is a needed shift of the individual away from self and toward a stronger connection with persons and concerns outside the self. Regis Duffy's book is right in step with this developing ethical atavism, so to speak, presenting some religious atavism concerning Christian commitment.

The study begins with a series of chapters that develop a theme, namely that while the presence and faithfulness of God in Christian sacraments and worship is presumed, the same cannot be said about a real presence and commitment on the part of the worshippers. In search of a closing of this gap, the link between faith commitment and personal praxis as well as the manner in which communication is effected in symbolic and sacramental ways are considered first. There follows a presentation of the ideal commitment rooted in justification, which Duffy calls "the unearned and continuing action of God in our lives." A third chapter explores the stresses and strains of successive new stages of life as sources of renewed commitment to cooperation in Kingdom-building. These chapters then converge in a fourth, which discusses "the question

of presence, the heart of all symbol . . . ." Three chapters consider Christian initiation (baptism), Eucharist, and penance in the light of the kind of commitment symbolized by each. A final chapter summarizes what all this implies "for a Christian community that wants honest sacraments and not simply 'relevant' ritualizing."

Duffy's is an unblinking look at what Christians profess to *believe* (theology) measured against how they actually live (praxis). He finds the ultimate evidence of a healthy rapproachement in this situation to be committed persons who are the fruits of our influence on their lives.

——**William E. Paul, Jr.**

A Path Through the Bible

John H. Piet

The Westminster Press, Philadelphia, Pa. 1981
318 pages, $14.95 (Paperback)

John H. Piet is Dosker-Hulswit Professor of English Bible and Missions at Western Theological Seminary of the Reformed Church in America, Holland, Michigan.

In compiling this new Bible guide, Professor Piet consulted with Biblical scholars from various backgrounds, leaned heavily on *The Good News Bible,* the *Harper Study Bible,* and the *New International Version* in development of outlines, and applied the wisdom garnered from his long personal experience as missionary and educator.

He finds in the book of Jonah and its unique didactic prose narrative a leitmotiv traceable throughout Biblical history, namely the difficulties and pressures that inevitably accompany living the way of the Bible. For Piet, "Jonah, the individual, is a corporate representative of those whom God calls to do his work in the world." The tensions which Jonah experiences between his will and God's will are the archetypal tensions discernible in the other books of the Bible and in the lives of all biblically oriented persons.

This thematic perception influences Piet's order of arrangement of the 66 books throughout this work. He begins with a very concise Biblical introduction, which includes comparison charts of the different sequential arrangements of Old Testament books in Jewish, Catholic and Protestant Bibles, as well as the standardized order of the 27 New Testament books in Christian Bibles. There follows "A Path Through the Old Testament," which begins with Jonah and ends with Deuteronomy, with various transpositions in between according to his thematic interests. The same technique is applied to the New Testament. All 66 books are included in the body of the book, albeit often displaced from their traditional places of sequence.

The guides to individual books are succinct but complete and include narrative thematic and content summaries, chapter précis, and concluding outlines. For the serious English Bible reader, these are of considerable help in maintaining a clear overview/review of what is read as well as a sense of continuity and movement in a developing story. Piet summarizes his perception of that one story in a particularly insightful way: "All the books taken together ask their readers to look to God with gratitude, to themselves with candor, and to the world with expectancy and hope."

There is a useful appendix that supplements the text with an index and 16 color plates reproduced from *The Westminster Historical Atlas to the Bible,* edited by G. Ernest Wright and Floyd V. Filson.

——**William S. Paul, Jr.**

Christians on the Right: The Moral Majority in Perspective

John L. Kater, Jr.

John L. Kater, Jr., is Rector of Christ Episcopal Church in Poughkeepsie, New York. He has taught religion and church history at Vassar College there for the past ten years.

The author presents the thesis of his book as follows: "The Moral Majority and its allies are . . . intent on capturing the public environment of America (and must not) be ignored. Other American Christians (need) to understand what the New Right has in mind for us all, to hold that vision up to the light of our understanding and our faith, and to speak up clearly when we believe they are wrong." The text practices what is preached in that thesis statement.

Kater first describes in helpful detail the Christian Right in terms of its basal political, cultural, and theological components and perspectives. Subsequent chapters examine a number of the principal articles of faith of the movement from the viewpoint of a critical Incarnational theology. The aim is to compare New Right theological positions with those of traditional Christian beliefs to discover how the former operate in the lives of New Right followers. The analysis is intended to emphasize the author's position that New Right theology is, as he puts it, "an ideological justification of already formed beliefs about the world and about Christians in the world." If this is a correct insight, as Kater believes, then the consequences of such an ideology/theology, if widely accepted as normative, would be largely negative and would require resistance now.

Christians critical of the Christian Right, however, must also see themselves in candid perspective and in that light exercise restraint and develop a more rational approach to the problems raised. The book closes with solid suggestions for movement toward that kind of irenic and necessary relationship.

——**William E. Paul, Jr.**

Jews and Christians After *the Holocaust*

Abraham J. Peck, Editor

Fortress Press, Philadelphia, Pa. 1982
111 pages, $8.95 (Hardcover)

Abraham J. Peck, whose parents survived the Holocaust, is Associate Director of the American Jewish Archives in Cincinnati, Ohio, and a lecturer at the University of Chicago.

In a *Foreword* to this book, Elie Wiesel—Andrew W. Mellon Professor in the Humanities at Boston University and Chairman of the United States Holocaust Memorial Council—first articulates some personal, poignant reservations and ambivalence regarding such a work. For him, as for countless others, the 1939-1945 Holocaust remains profoundly incomprehensible and arouses mainly fear. He expresses approval of this collective scholarly effort, in the final analysis, because of his conviction that the Holocaust ought not to separate Jews and Christians but bring them together for the survival of the world, and perhaps this book may help toward that end.

Abraham Peck's *Preface* includes information about the 1980 symposium, which he planned and organized, at which the essays included in this volume were read and discussed. He points out that collectively, the essays seek to look critically at the situation of religious values in a post-Holocaust world, a world irrevocably changed by the events grouped under that burning title. He asserts that both Jews and Christians are challenged in this collection of essays regarding whether, as he states the problem, "their faiths, values, and moral systems are essential and still operative in the world after the Holocaust (and) can preserve ... the shared hopes of (both) for a future of global community and peace."

The text that follows comprises seven essays by Jewish and Christian scholars from various academic disciplines. These include Yaffa Eliach's "Defining the Holocaust: Perspectives of a Jewish Historian"; "Christology and Jewish-Christian Relations," by Rosemary Radford Reuther; a piece by John S. Conway about "The German Church Struggle and Its Aftermath"; and three views of "Religious

Values after the Holocaust," by Allan R. Brockway (Protestant), Irving Greenberg (Jewish), and David Tracy (Catholic).

Alfred Gottschalk, President of the Hebrew Union College-Jewish Institute of Religion in Cincinnati, provides the *Afterword*. He recalls the earnestness and sincerity of the symposium discussions, but remembers also the "gaps of silence" that revealed how much farther Jews and Christians must travel to reach understanding of one another. He expresses a need now for less talk about loving one another and more about what hurts persons as Christians and Jews. He ends on a positive note of hope for the future of Jewish-Christian problem solving.

——**William E. Paul, Jr.**

INDEX

The following index of the *Military Chaplains' Review* includes all entries from DA Pam 165-125 (Spring, 1980) to DA Pam 165-136 (Winter, 1983). References are cited by DA Pam number and page. For example, 131, 47 indicates DA Pam 165-131, page 47. The designation *al* indicates the entire issue.

This index is updated annually in each Spring edition. A comprehensive index, starting with Volume 1, Number 1 (January 1972) is available upon request by writing to:

U.S. Army Chaplain Board
ATTN: Editor, *Military Chaplains' Review*
Building 1207
Fort Monmouth, NJ 07703

AUTHOR INDEX

SUBJECT INDEX

Change of Address

Name _____

Address _____

_____

Old Address _____

_____

_____

E. C. MEYER
General, United States Army
Chief of Staff

Official:

R. M. JOYCE
Major General, United States Army

The Adjutant General

Distribution:
Special